SECTION 21. LADLE METALLURGY (AND OTHER REFINING PROCESSES)

TECHNICAL INFORMATION HELP LINE: (800) 357-7075



IS LADLE METALLURGY (OTHER THAN VACUUM DEGASSING) PERFORMED AT THIS SITE?

G YES (CONTINUE)

G No (Skip to Section 2J)

Throughout this section you will be required to provide information for <u>ALL</u> operable units and water systems related to lable metallurgy and other refining processes (other than vacuum degassing) which were on site during 1997, including units and water systems which may have been idle for an extended period of time due to circumstances such as market conditions, major rebuilds, or labor disputes. If an operable unit or water system was not in operation during 1997, substitute the most recent calendar year when such circumstances did not exist. Note the year of operation and the circumstances in the comments at the end of this section, and provide data from that calendar year.



HOW MANY <u>OPERABLE LADLE METALLURGY PROCESSES</u> WERE ON SITE DURING **1997**? IF THERE ARE MULTIPLE SMALL LADLE METALLURGY STATIONS OF THE SAME TYPE (SEE QUESTION 2I-1.A. FOR TYPES) IN ONE SHOP, THESE STATIONS MAY BE COUNTED AS ONE PROCESS. ______

COMPLETE A COPY OF QUESTION 2I-1 FOR <u>EACH</u> OPERABLE LADLE METALLURGY PROCESS. NUMBER EACH COPY OF QUESTION 2I-1 IN THE UPPER RIGHT CORNER. NOTE: QUESTION 2I-1 IS TWO PAGES LONG.

G CBI 21-1.a. Indicate which type of ladle metallurgy operation is performed at this process. **G** Argon Bubbling **G** Argon-Oxygen Decarburization (AOD) G Electroslag Remelting (ESR) **G** Lance Injection **G** Other (specify): __ G CBI b. Provide the designation by which your site refers to this ladle metallurgy process. G CBI C. Provide the designation of the BOF/EAF shop which is associated with this ladle metallurgy process. The designation should correspond with a response provided in Question 2F-2 (BOF) or 2G-2 (EAF). G CBI d. What year were ladle metallurgy operations first performed at this process? What is the total rated capacity of the ladle metallurgy process in tons of steel refined per year? G CBI e. tons/year (to three significant figures, e.g., 695,000 tons/year) G CBI f. What is the annual number of heats used to determine the total rated capacity?

heats/year

		Copy of
		COMPLETE A COPY OF QUESTION 2I-1 FOR <u>EACH</u> OPERABLE LADLE METALLURGY PROCESS.
G СВІ	2l-1. g.	Indicate (✓) ALL function(s) of this ladle metallurgy process.
	(cont.)	G Alloy additions
		G Temperature control
		G Deoxidation (O ₂)
		G Hydrogen removal (H ₂)
		G Decarburization
		G Desulfurization
		G Microcleanliness
		G Inclusion morphology
		G Other (specify):

G CBI h. Provide annual production data for this ladle metallurgy process for each of the five calendar years 1993 through 1997.

Year	Steel Refined (tons/year)
1993	
1994	
1995	
1996	
1997	

G СВI	21-2.	hav site	e a previously prepared list of raw mater	ials and	narged to any ladle metallurgy process in 1997 . If you and alloying elements, attach it to the survey, write your this question number on the upper right corner of the Question 2I-3.
		G	Aluminum	G	Other (specify):
		G	Boron	G	Other (specify):
		G	Chromium	G	Other (specify):
		G	Cobalt	G	Other (specify):
		G	Copper	G	Other (specify):
		G	Lead	G	Other (specify):
		G	Magnesium	G	Other (specify):
		G	Manganese	G	Other (specify):
		G	Molybdenum	G	Other (specify):
		G	Nickel	G	Other (specify):
		G	Niobium (Columbium)	G	Other (specify):
		G	Selenium	G	Other (specify):
		G	Silicon	G	Other (specify):
		G	Sulfur	G	Other (specify):
		G	Tantalum	G	Other (specify):
		G	Titanium	G	Other (specify):
		G	Tungsten	G	Other (specify):
		G	Vanadium	G	Other (specify):
		G	Zirconium	G	Other (specify):

					Сору	of
	STOP	HOW MANY OPERABLE WET AIR P METALLURGY PROCESS DURING 1997 ? PROCESSING UNIT.				
		COMPLETE A COPY OF QUESTION 2I-3 IN THE SPACE PROVIDED IN THE UPPER				UESTION 21-3
		IF YOUR SITE DOES NOT HAVE WET AIR PROCESSES, CHECK THE BOX TO THE R			METALLURGY	G
G СВІ	2l-3. a.	Provide the designation(s) of the lad this WAPC system. Process design information for this WAPC system is check the box to the right, and SKIP	ation(s) should correst already provided els	spond with response(s) to Question	n 2I-1.b. If
G сві	b.	This WAPC system controls emissic apply. G Raw material handling, preparate G Building evacuation G Other (specify):		following processes?	Check (✓) <u>A</u>	\LL that
G сві	c.	Indicate the devices in this WAPC sy G Venturi scrubber G Spray chamber G Evaporation chamber G Separator	G G G	L that apply. Demister Packed tower Other (specify): Other (specify):		
G СВІ	d.	Provide the gas or air flow through the description	he system in dry stan	dard cubic feet per m	inute (dscfm)	
G СВІ	e.	Is the water recirculated or applied of G Recirculated (continue) G Once-through (SKIP to Question	_			
G сві	f.	Is any treatment and/or conditioning G Yes (continue) G No (SKIP to Question 2I-3.j.)	ı (e.g., chemical addit	ions) performed in the	e recirculatinç	j loop?
G СВІ	g.	Does the treatment in the recirculati	ng loop also treat wa	stewater from other p	rocesses?	

Specify the processes:

G No - Dedicated treatment

G Yes - Treatment shared with other processes

<u>C</u>	ору (of

COMPLETE A COPY OF QUESTION 2I-3 FOR <u>EACH</u> OPERABLE WAPC SYSTEM.

G CBI	2I-3. h.	Check (✓) <u>ALL</u> treatment units and/or treatment	process	es which are included in th	ie recirculatin	ıg loop.
	(cont.)	G Clarifiers	G	Oil skimmers		
		G Classifiers	G	Scale pits		
		G Cooling towers	G	Sludge dewatering units	(e.g., vacuum	n filter,
		G Earthen Lagoons		pressure filtration, etc.)		
		G Lined (specify liner type):	G	Water filters (e.g., sand,	multimedia, e	etc.)
		G Clay	G	Water softeners		
		G Synthetic	G	Other (specify):		
		G Other (specify):		Other (specify):		
		G Unlined	G	None		
G СВІ	i.	Indicate chemical additions to the water recircula	ation syst	em. Check (🗸) <u>ALL</u> that a	apply.	
		G Acid	G	Scale inhibitor		
		G Caustic (sodium hydroxide)	G	Surfactant		
		G Corrosion inhibitor	G	Other (specify):		
		G Lime		Other (specify):		
		G Polymer	G	None		
G СВІ	j.	Provide the design flow of water through the reci	irculating	loop.		gpm
G СВІ	k.	Provide the average recirculation rate of water th	nrough th	e system.		
		gpm hc	ours per o	day	davs per	r vear
_		- '	•	•		•
G СВІ	l.	Provide the average rate at which new water is added to the system (for once-through system the influent flow rate; for recirculating systems, provide the makeup flow rate).				
		gallons per day			days per	r year
G СВІ	m.	Indicate <u>ALL</u> sources for water addition. Provide The percentages should add to 100 percent.	ed by each so	ource.		
		G Plant service water (city, well, or surface wat elsewhere on site)	ter which	has not been used		%
		G Noncontact cooling water (specify manufact	turing pro	ocess(es)):		%
		G Treated process wastewater (specify manuf	facturing	process(es)):		%
		G Untreated process wastewater (specify man		• , ,,		%
		G Treated storm water (specify manufacturing area(s)):	process	(es) or other collection		%
		G Untreated storm water (specify manufacturing area(s)):				%
		G Other (specify):				%
				Total:		%

				Copy of
		COMPLETE A COPY OF QU	ESTION 2I-3 FOR <u>EACH</u> OPERABLE WAPO	C SYSTEM.
G СВІ	2l-3.n. (cont.)	Provide the average discharge rat rate).	e from the system (for recirculating sys	stems, provide the blowdown
		gpm	hours per day	days per year
		OR:	gallons per day _	days per year
G CBI	0.	G Discharge to treatment (specific Godd Discharge without treatment by soutfall number): G Discharge without treatment by for permit monitoring location) G Discharge without treatment by designation for permit monitoring of Zero discharge or alternative of Godd Deep-well injection Godd Evaporation (specify method Godd Spray irrigation Godd Contract hauled (specify disposal rate, incompared to the property of the period of the peri	by pipeline, sewer, or other conveyance ring location if applicable):	e to surface water (specify to POTW (specify designation to Protw (specify to Protw (specify to per gallon

G CBI 2I-4.a. Are any dry air pollution control (DAPC) systems associated with any ladle metallurgy processes on site?

G Yes (continue)

G No (SKIP to Question 2I-5)

G CBI b. Indicate the process(es) associated with DAPC systems and the ladle metallurgy process designation associated with each process (designation(s) should correspond with response(s) to Question 2I-1.b). Check (✓) ALL that apply. For each process checked, indicate the type of DAPC system.

	Process	Ladle Metallurgy Process Designation	Type of DAPC System
G	Raw material handling, preparation, and storage associated with ladle metallurgy		 G Fabric filter (i.e., baghouse) G Electrostatic precipitator G Other (specify):
G	Ladle metallurgy emissions		 G Fabric filter (i.e., baghouse) G Electrostatic precipitator G Other (specify):
G	Building evacuation associated with ladle metallurgy		G Fabric filter (i.e., baghouse)G Electrostatic precipitatorG Other (specify):
G	Other (specify):		 G Fabric filter (i.e., baghouse) G Electrostatic precipitator G Other (specify):
G	Other (specify):		G Fabric filter (i.e., baghouse)G Electrostatic precipitatorG Other (specify):
G	Other (specify):		 G Fabric filter (i.e., baghouse) G Electrostatic precipitator G Other (specify):

				Сору	of
	STOP	EXCLUDING WAPC SYSTEMS AND STORM WAT METALLURGY OPERATIONS ARE PRESENT?		RCES FROM LA	\DLE
		COMPLETE A COPY OF QUESTION 21-5 FOR EACH QUESTION 21-5 IN THE SPACE PROVIDED IN THE UF			
		IF YOUR SITE HAS NO LADLE METALLURGY SOURCE A WAPC SYSTEM OR STORM WATER, CHECK THE			OCIATED WITH
	2I-5.	Provide information for the ladle metallurgy p sources.	rocess and related on-site wastewa	ater generat	ing
Э СВІ	a.	Indicate the source of process wastewater Modern If there is more than one source at this site, of process source. G Raw material handling, preparation, and G Slag quenching G Equipment cleaning and washdown water G Other (specify):	omplete a copy of this question for storage		
G СВІ	b.	Provide a list of chemicals or pollutants know wastewater. If a list is readily available, attack written on the upper right corner. If a chemic solution (e.g., solutions used to clean and was product and the product code, if known.	n it to the survey with this question a al or pollutant originates from a co	number and mmercial cle	your site ID eaning
3 СВІ	C.	Provide the wastewater flow rate associated v	with the source checked above.		
		gpm	hours per day	day:	s per year
		OR:	gallons per day	day:	s per year

	Сом	PLETE A COPY OF QUESTION 2I-5 FOR <u>EACH</u> LADLE METALLURGY SOURCE GENERATING PROCESS WASTEWATER NOT ASSOCIATED WITH A WAPC SYSTEM OR STORM WATER.
G сві	2I-5. d.	Indicate the destination of this wastewater stream. Check (✓) <u>ALL</u> that apply.
	(cont.)	G Discharge to treatment (specify treatment system):
		G Discharge without treatment by pipeline, sewer, or other conveyance to surface water (specify outfall number):
		G Discharge without treatment by pipeline, sewer, or other conveyance to POTW (specify designation for permit monitoring location):
		G Discharge without treatment by pipeline, sewer, or other conveyance to PrOTW (specify designation for permit monitoring location if applicable):
		G Zero discharge or alternative disposal methods:
		G Deep-well injection
		G Evaporation (specify method):
		G Percolation pond

(specify disposal rate, including transportation): \$______ per gallon

G Other (specify):

(specify destination/disposal method):

G Spray irrigationG Contract hauled

G Incineration

Сору ____

of _

G CBI 21-6.	Provide information on any major process modifications and/or shut downs which have occurred for the
	ladle metallurgy processes since 1993. Provide ladle metallurgy process designations in the
	description. Designation(s) should correspond with response(s) to Question 2I-1.b.

Shut Down or Modification?	Date	Description

G CBI 21-7. Provide information on any publicly announced process modifications and/or shut downs planned to occur during the next five years (1998 to 2002) at the ladle metallurgy processes. Provide ladle metallurgy process designations in the description. Designation(s) should correspond with response(s) to Question 2I-1.b.

Shut Down or Modification?	Anticipated Date	Description

Indicate <u>ALL</u> pollution prevention (waste reduction) or management practices implemented by your site for the ladle metallurgy facility and describe the practice as it is implemented. Describe all processes where by-products and wastes are recovered for reuse or sold as a raw material feedstock. Discuss the percent recovered. Provide ladle metallurgy process designations in the description. Designation(s) should correspond with response(s) to Question 2I-1.b.

	Management Practices	Description of Practice
G	Management of spillage and losses from raw material handling operations associated with ladle metallurgy	
G	Management of runoff from raw material or product storage piles associated with ladle metallurgy	
G	Management of fugitive discharges of process wastewaters and materials to ladle metallurgy facility noncontact cooling water (NCCW) systems	
G	Surveillance and corrective action programs for oil discharges from large NCCW flows associated with ladle metallurgy	
G	Collection and treatment and/or disposal of storm water from any areas associated with ladle metallurgy (specify manufacturing processes or other collection areas in the description)	
G	Collection and treatment and/or disposal of landfill leachate from any landfills associated with ladle metallurgy wastes	
G	Collection and treatment and/or disposal of contaminated ground water associated with ladle metallurgy wastes	
G	Other (specify):	
G	Other (specify):	

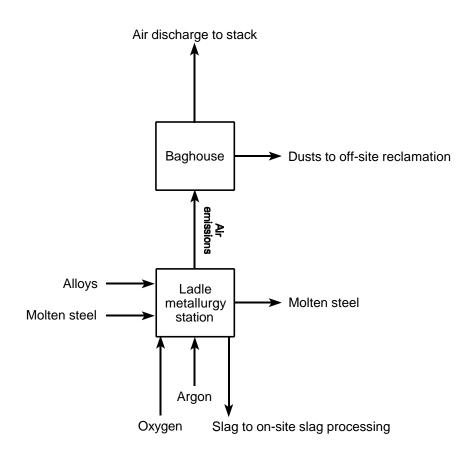
Attach a process flow diagram (PFD) that shows ladle metallurgy processes and the water use associated with the processes. You are <u>NOT</u> required to create a new PFD if an existing diagram will suffice. Number the diagram in the upper right corner, and include your site ID number (as shown on the cover page of Part A). Specific instructions for including the PFD, along with an example diagram, are provided below. Flow rates are <u>NOT</u> required on the diagrams.

Provide the PFD number assigned to the ladle metallurgy PFD. If the process is already shown on a PFD provided elsewhere in this survey, provide the PFD number and review the following list for completeness. If you need assistance, call the Technical Information Help Line at (800) 357-7075.

Ladle metallurgy	PFD
------------------	-----

Process Flow Diagram Checklist

Be sure	1
All ladle metallurgy and other refining operations are included. Include those operations which do not generate process wastewater.	G
All air pollution control systems are included. Label each system as being either wet or dry. Water streams for all wet air pollution control systems must be shown, including all recycle streams and all treatment processes within recycle loops.	G
Any recycle or reuse of process wastewater or other waters is indicated clearly on the diagram.	G
Any in-process wastewater treatment or reuse technologies are indicated. Show and label all treatment units and all recycle loops.	G
Significant losses of water (e.g., evaporation) are shown.	G
All materials entering each operation and all products and wastes exiting each operation are identified. Wastes include wastewater, sludges, baghouse dust, and point-source air emissions. Noncontact cooling water systems which do not contain process wastewater and do not discharge to process wastewater systems do not need to be included.	G
All process wastewater streams are identified. When sources and destinations of process wastewater are not shown on the diagram (i.e., the stream is entering from or exiting to a location not shown on the diagram), describe the source or destination (e.g., "from river" or "to wastewater treatment") and add the PFD number, when appropriate, where the stream's previous or next location can be seen.	G
The PFD number and your site ID number are written on the diagram.	G
If you believe that the diagram should be treated as confidential, stamp it "Confidential" or write "Confidential" or "CBI" across the top. If any diagram is not marked "Confidential", it will be considered nonconfidential under 40 CFR Part 2, Subpart B.	G



Ladle Metallurgy Example Process Flow Diagram

Cor	v	of	
~~,	<i>,</i>	٠.	

COMMENTS FOR SECTION 2I: LADLE METALLURGY (AND OTHER REFINING PROCESSES)

Cross reference your comments by question number and indicate the confidential status of your comment by checking () the box in the column titled "CBI" (Confidential Business Information). If you need additional space, photocopy this page before writing on it and number each copy in the space provided in the upper right corner.

Question Number	CDI	Commont
Number	СВІ	Comment
	G	
	G	
	G	
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	G	
	G	
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	G	
	G	
	G	

SECTION 2J. CASTING

TECHNICAL INFORMATION HELP LINE: (800) 357-7075



IS CASTING PERFORMED AT THIS SITE?

G YES (CONTINUE)

G No (Skip to Section 2K)

THROUGHOUT THIS SECTION YOU WILL BE REQUIRED TO PROVIDE INFORMATION FOR <u>ALL</u> OPERABLE UNITS AND WATER SYSTEMS RELATED TO CASTING WHICH WERE ON SITE DURING 1997, INCLUDING UNITS AND WATER SYSTEMS WHICH MAY HAVE BEEN IDLE FOR AN EXTENDED PERIOD OF TIME DUE TO CIRCUMSTANCES SUCH AS MARKET CONDITIONS, MAJOR REBUILDS, OR LABOR DISPUTES. IF AN OPERABLE UNIT OR WATER SYSTEM WAS NOT IN OPERATION DURING 1997, SUBSTITUTE THE MOST RECENT CALENDAR YEAR WHEN SUCH CIRCUMSTANCES DID NOT EXIST. NOTE THE YEAR OF OPERATION AND THE CIRCUMSTANCES IN THE COMMENTS AT THE END OF THIS SECTION, AND PROVIDE DATA FROM THAT CALENDAR YEAR.

G CBI 2J-1.a. Is any type of casting other than continuous casting (e.g., ingot casting, pressure casting) performed at this site?

G Yes (continue)

G No (Skip to Question 2J-2)

G CBI b. Provide a list of the operable casting processes, other than continuous casting, which were on site during 1997. For each process, indicate the type of casting process and the 1997 annual production rate. Use the site designation for each casting process on the list.

Non-Continuous Casting Process Designation	Type of Process	1997 Production Rate (tons/year)

G CBI c. Is continuous casting performed at this site?

G Yes (continue)

G No (Skip to Question 2J-3)

|--|



HOW MANY **OPERABLE CONTINUOUS CASTERS** WERE ON SITE DURING **1997**? __

COMPLETE A COPY OF QUESTION 2J-2 FOR <u>EACH</u> OPERABLE CONTINUOUS CASTER. NUMBER EACH COPY OF QUESTION 2J-2 IN THE SPACE PROVIDED IN THE UPPER RIGHT CORNER. NOTE: QUESTION 2J-2 IS THREE PAGES LONG.

G CBI f. Provide annual production data for this continuous caster for each of the five calendar years 1993 through 1997.

Year	Steel Cast (tons/year)
1993	
1994	
1995	
1996	
1997	

G CBI g. Indicate the type of product cast by this continuous caster. Provide the dimension ranges of each shape this continuous caster is capable of casting.

	Туре	Range of Dimensions (specify units)
G	Slab	
G	Slim slab	
G	Thin slab	
G	Billets, round	
G	Billets, rectangular	
G	Blooms	
G	Other (specify):	

			opy or		
	COMPLETE A COPY OF QUESTION 2J-2	FOR EACH OPERABLE CONTINUOUS CASTER	R.		
2J-2. h.	Is the contact spray water recirculated or applied once-through?				
(cont.)	G Recirculated (continue)				
	G Once-through (SKIP to Question 2J-2	.0.)			
i.	Is any treatment and/or conditioning (e.g.,	chemical additions) performed in the red	circulating loop?		
	G Yes (continue)				
	G No (SKIP to Question 2J-2.m.)				
j.	Does the treatment in the recirculating loc	op also treat wastewater from other proce	esses?		
	G No - Dedicated treatment				
	G Yes -Treatment shared with other pro	cesses			
	Specify the processes:				
k.	Check (✓) <u>ALL</u> treatment units and/or treatment		he recirculating loop.		
	G Clarifiers	G Oil skimmers			
	G Classifiers	G Scale pits			
	G Cooling towersG Earthen Lagoons	G Sludge dewatering units pressure filtration, etc.)	(e.g., vacuum filter,		
	G Lined (specify liner type):	G Water filters (e.g., sand,	multimedia, etc.)		
	G Clay	G Water softeners			
	G Synthetic	G Other (specify):			
	G Other (specify):	G Other (specify):			
	G Unlined	G None			
l.	Indicate chemical additions to the water re	ecirculation system. Check (✓) ALL that	apply.		
	G Acid	G Scale inhibitor			
	G Caustic (sodium hydroxide)	G Surfactant			
	G Corrosion inhibitor	G Other (specify):			
	G Lime	G Other (specify):			
	G Polymer	G None			
m.	Provide the design flow of water through t	he recirculating loop.	gpm		
n.	Provide the average recirculation rate of v	vater through the system and period of op	peration.		
	gpm	hours per day	days per year		
0.	Provide the average rate at which new wa the influent flow rate; for recirculating syst		ugh systems, provide		
	gallons per	dav	davs per vear		

Vao	0	f

COMPLETE A COPY OF QUESTION 2J-2 FOR <u>EACH</u> OPERABLE CONTINUOUS CASTER.

3 CBI	2J-2.p. (cont.)	· · · · · · · · · · · · · · · · · · ·						
		G Plant service water (city, elsewhere on site)	well, or surface water which has not been used	%				
		G Noncontact cooling water	er (specify manufacturing process(es)):	%				
		G Treated process wastew	rater (specify manufacturing process(es)):	%				
		G Untreated process waste	ewater (specify manufacturing process(es)):	%				
			ecify manufacturing process(es) or other collection	on%				
			specify manufacturing process(es) or other collec	etion%				
				%				
				otal <u>100</u> %				
Э СВІ	'	provide the blowdown rate).	ge rate from the system and period of discharge (Check (✓) ALL that apply hours per day					
		OR:	gallons per day	days per year				
G СВІ	r.	G Discharge to treatment (G Discharge without treatmoutfall number):	astewater discharge or blowdown. Check () ALI (specify treatment system): nent by pipeline, sewer, or other conveyance to sument by pipeline, sewer, or other conveyance to Pration):	urface water (specify				
		<u> </u>	nent by pipeline, sewer, or other conveyance to Ponitoring location if applicable):					
		 G Percolation pond G Spray irrigation G Contract hauled (specify disposal rate 	ative disposal methods: / method): //ee, including transportation): \$	_ per gallon				

				Сору	of	
STOP	HOW MANY OPERABLE WET AIR POLLUID DURING 1997? A WAPC SYSTEM MAY INCLUID					
	COMPLETE A COPY OF QUESTION 2J-3 FOR <u>E.</u> 3 IN THE SPACE PROVIDED IN THE UPPER RIGHT				QUESTION 2J-	
	IF YOUR SITE DOES NOT HAVE WET AIR POLLUT RIGHT AND SKIP TO QUESTION 2J-4.	FION CONTROL AS	SOCIATED WITH ANY CAST	ERS, CHECK THE	вох то тне G	
2J-3. a.	Provide the designation(s) of the caster(s) and all other operations associated with this WAPC system. Caster designation(s) should correspond with response(s) to Questions 2J-1.b. or 2J-2.a. If information for this WAPC system is already provided elsewhere in this survey, answer Question 2J-3.a., check the box to the right, and SKIP to Question 2J-4.					
b.	This WAPC system controls emissions from which of the following processes? Check (✓) <u>ALL</u> that apply. G Raw material handling, preparation, and storage G Building evacuation G Other (specify):					
C.	Indicate the devices in this WAPC system. G Venturi scrubber G Spray chamber G Evaporator chamber G Separator	G G G	Demister Packed tower			
d.	Provide the gas or air flow through the dev	vice in dry stan	dard cubic feet per m	ninute (dscfm)		
	dscfm					
e.	Is the water recirculated or applied once-th G Recirculated (continue) G Once-through (SKIP to Question 2J-3)	•				

- G CBI
- G CBI f. Is any treatment and/or conditioning (e.g., chemical additions) performed in the recirculating loop?
 - G Yes (continue)

G сві

G CBI

G CBI

G CBI

- **G** No (SKIP to Question 2J-3.j.)
- G CBI g. Does the treatment in the recirculating loop also treat wastewater from other processes?
 - G No Dedicated treatment
 - G Yes Treatment shared with other processes

Specify the processes:

	ору _	of
COMPLETE A COPY OF QUESTION 2J-3 FOR EACH OPERABLE WAPC SYSTEM.		

G сві	2J-3. h.	Check (✓) <u>ALL</u> treatment units and/or tre	eatment processes which are included in t	he recirculating I	oop.
	(cont.)	G Clarifiers	G Oil skimmers		
		G Classifiers	G Scale pits		
		G Cooling towers	G Sludge dewatering units	(e.g., vacuum fil	ter,
		G Earthen Lagoons	pressure filtration, etc.)		
		G Lined (specify liner type):	G Water filters (e.g., sand,	multimedia, etc.)
		G Clay	G Water softeners		
		G Synthetic	G Other (specify):		
		G Other (specify):	G Other (specify):		
		G Unlined	G None		
G СВІ	i.	Indicate chemical additions to the water r	recirculation system. Check (🗸) ALL that	apply.	
		G Acid	G Scale inhibitor		
		G Caustic (sodium hydroxide)	G Surfactant		
		G Corrosion inhibitor	G Other (specify):		
		G Lime	G Other (specify):		
		G Polymer	G None		
G СВІ	i.	Provide the design flow of water through	the recirculating loop.		gpm
	•				01
G CBI	K.	Provide the average recirculation rate of	water through the WAPC system and peri	od or operation.	
		gpm	hours per day	days per ye	ear
G СВІ	I.	Provide the average rate at which new wa the influent flow rate; for recirculating sys	ater is added to the system (for once-throustems, provide the makeup flow rate).	ugh systems, pro	vide
		gallons per	· day	days per ye	ear
G СВІ	m.	Indicate <u>ALL</u> sources for water addition. The percentages should add to 100 perc	Provide the percentage of water contributent.	ed by each sour	ce.
		G Plant service water (city, well, or surfelsewhere on site)	ace water which has not been used		_ %
		G Noncontact cooling water (specify ma	nanufacturing process(es)):		_ %
		G Treated process wastewater (specify	/ manufacturing process(es)):		_ %
		G Untreated process wastewater (spec	cify manufacturing process(es)):		_ %
		())	acturing process(es) or other collection		_%
		G Untreated storm water (specify manu	ufacturing process(es) or other collection		_ %
					_ %
			Total	100	_ %

			Сору	of				
		COMPLETE A COPY OF QUESTION 2J-3 FOR EACH OPERABLE WAPC SYS	STEM.					
G СВІ	2J.3.n. (cont.)	Provide the average discharge rate from the system and period of discharge (for recircular provide the blowdown rate).						
		gpmhours per day	day	s per year				
		OR: gallons per day	day	s per year				
G CBI	0.	Indicate the destination of wastewater discharge or blowdown. Check (✓) All G Discharge to treatment (specify treatment system): G Discharge without treatment by pipeline, sewer, or other conveyance to soutfall number): G Discharge without treatment by pipeline, sewer, or other conveyance to for permit monitoring location): G Discharge without treatment by pipeline, sewer, or other conveyance to for permit monitoring location if applicable): G Zero discharge or alternative disposal methods: G Deep-well injection G Evaporation (specify method): G Percolation pond G Spray irrigation G Contract hauled (specify disposal rate, including transportation): \$	surface water (specify PrOTW (specify per gallon	specify designation				

G CBI 2J-4.a. Are any dry air pollution control (DAPC) systems associated with any casters?

G Yes (continue)

G No (SKIP to Question 2J-5)

G CBI b. Indicate the process associated with DAPC systems at any casters. Check (✓) <u>ALL</u> that apply. For each process checked, indicate the type of DAPC system.

	Process		Type of DAPC System
G	Raw material handling, preparation, and storage associated with the casters	G G	Fabric filter (i.e., baghouse) G Electrostatic precipitator Other (specify):
G	Building evacuation associated with the casters	G G	Fabric filter (i.e., baghouse) G Electrostatic precipitator Other (specify):
G	Other (specify):	G G	Fabric filter (i.e., baghouse) G Electrostatic precipitator Other (specify):
G	Other (specify):	G G	Fabric filter (i.e., baghouse) G Electrostatic precipitator Other (specify):
G	Other (specify):	G G	Fabric filter (i.e., baghouse) G Electrostatic precipitator Other (specify):
G	Other (specify):	G G	Fabric filter (i.e., baghouse) G Electrostatic precipitator Other (specify):
G	Other (specify):	G G	Fabric filter (i.e., baghouse) G Electrostatic precipitator Other (specify):

		Copy of	
	STOP	EXCLUDING WAPC SYSTEMS, CONTACT SPRAY WATER SYSTEMS, AND STORM WATER, HOW MANY OTHER WASTEWATER SOURCES FROM CASTING OPERATIONS ARE PRESENT?	
		Complete a copy of Question 2J-5 for <u>EACH</u> Caster wastewater source. Number each copy of questic 2J-5 in the space provided in the upper right corner. Note: Question 2J-5 is two pages long.	N
		IF YOUR SITE HAS NO CASTER SOURCES WHICH CONTRIBUTE PROCESS WASTEWATER NOT ASSOCIATED WITH A WAPC SYSTEM, CONTACT SPRAY WATER SYSTEM, OR STORM WATER, CHECK THE BOX TO THE RIGHT AND SKIP TO QUESTION 2J-6.	
	2J-5.	Provide information for any casters and related on-site wastewater generating sources.	
G СВI	a.	Indicate the source of process wastewater NOT associated with wet air pollution control, contact spray water, or storm water. If there is more than one source at this site, complete a copy of this question for EACH casting source. G Raw material handling, preparation, and storage G Mold preparation for pressure casting G Losses from mold water system G Losses from machine water system G Equipment cleaning and washdown water G Other (specify):	
G СВI	b.	Provide a list of chemicals or pollutants known or believed to be present in this source of process wastewater. If a list is readily available, attach it to the survey with this question number and your site written on the upper right corner. If a chemical or pollutant originates from a commercial cleaning solution (e.g., solutions used to clean and wash equipment), provide the vendor name of the cleaning product and the product code, if known.	
G сві	C.	Provide the wastewater flow rate and period of discharge associated with the source checked above.	_
		gpm hours per day days per year	
		OR: gallons per day days per year	

	Complete a copy of Question 2J-5 for <u>EACH</u> casting source generating process wastewater not associated with a WAPC system, contact spray water system, or storm water.					
G сві		Indicate the destination of this wastewater stream. Check (✓) <u>ALL</u> that apply.				
	(cont.)	 G Discharge to treatment (specify treatment system): G Discharge without treatment by pipeline, sewer, or other conveyance to surface water (specify outfall number): 				
		G Discharge without treatment by pipeline, sewer, or other conveyance to POTW (specify designation for permit monitoring location):				
		G Discharge without treatment by pipeline, sewer, or other conveyance to PrOTW (specify designation for permit monitoring location if applicable):				
		G Zero discharge or alternative disposal methods: G Deep-well injection G Evaporation (specify method): G Percolation pond G Spray irrigation G Contract hauled (specify disposal rate, including transportation): \$ per gallon (specify destination/disposal method):				
		G Incineration				

G Other (specify):

Copy ____ of ___

G CBI 2J-6. Provide information on any major process modifications and/or shut downs which have occurred at the casting operations since 1993. Provide caster designations in the description. Designation(s) should correspond with response(s) to Question 2J-1.b or 2J-2.a.

Shut Down or Modification?	Date	Description

G CBI 2J-7. Provide information on any publicly announced process modifications and/or shut downs planned to occur during the next five years (1998 to 2002) at the casting operations. Provide caster designations in the description. Designation(s) should correspond with response(s) to Question 2J-1.b or 2J-2.a.

Shut Down or Modification?	Anticipated Date	Description

Indicate <u>ALL</u> pollution prevention (waste reduction) or management practices implemented by your site for casting operations and describe the practice as it is implemented. Describe all processes where byproducts and wastes are recovered for reuse or sold as a raw material feedstock. Discuss the percent recovered. Provide caster designations in the description. Designation(s) should correspond with response(s) to Question 2J-1.b or 2J-2.a.

	Management Practices	Description of Practice
G	Management of fugitive discharges of process wastewaters and materials to any casting noncontact cooling water (NCCW) systems	
G	Surveillance and corrective action programs for oil discharges from large NCCW flows associated with the casters	
G	Collection and treatment and/or disposal of storm water from any areas associated with the casters (specify manufacturing processes or other collection areas in the description)	
G	Collection and treatment and/or disposal of landfill leachate from any landfills associated with casting wastes	
G	Collection and treatment and/or disposal of contaminated ground waters associated with the casters	
G	Other (specify):	

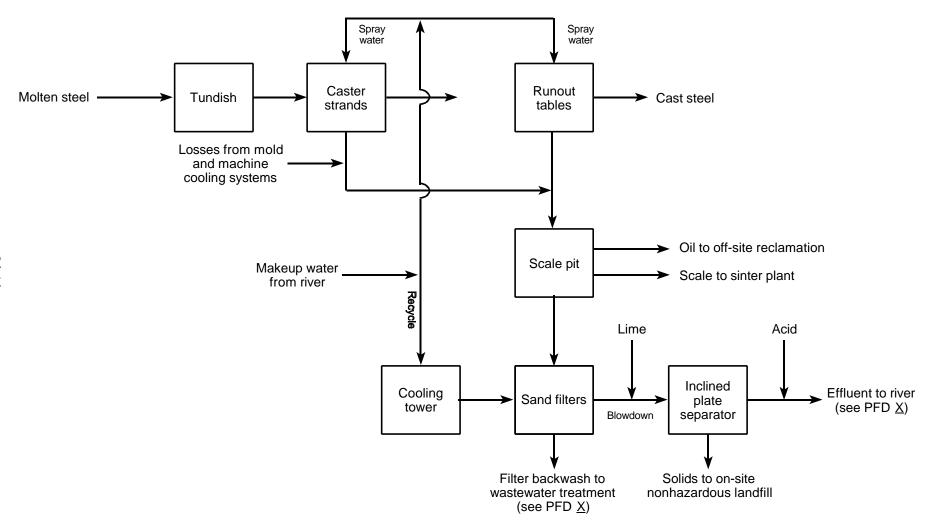
Attach a process flow diagram (PFD) that shows the casting operations and the water use associated with these processes. You are <u>NOT</u> required to create a new PFD if an existing diagram will suffice. Number the diagram in the upper right corner, and include your site ID number (as shown on the cover page of Part A). Specific instructions for including the PFD, along with an example diagram, are provided below. Flow rates are <u>NOT</u> required on the diagrams.

Provide the PFD number assigned to the casting operations PFD. If the process is already shown on a PFD provided elsewhere in this survey, provide the PFD number and review the following list for completeness. If you need assistance, call the Technical Information Help Line at (800) 357-7075.

for completeness.	If you need assistance,	, call the Technical	Information Help	Line at (800)	357-7075
Casting PFD					

Process Flow Diagram Checklist

Be sure	✓
All casting operations are included. Include those operations which do not generate process wastewater.	G
All air pollution control systems are included. Label each system as being either wet or dry. Water streams for all wet air pollution control systems must be shown, including all recycle streams and all treatment processes within recycle loops.	G
Any recycle or reuse of process wastewater or other waters is indicated clearly on the diagram.	G
Any in-process wastewater treatment or reuse technologies are indicated. Show and label all creatment units and all recycle loops.	G
Significant losses of water (e.g., evaporation) are shown.	G
All materials entering each operation and all products and wastes exiting each operation are dentified. Wastes include wastewater, sludges, baghouse dust, and point-source air emissions. Noncontact cooling water systems which do not contain process wastewater and do not discharge to process wastewater systems do not need to be included.	G
All process wastewater streams are identified. When sources and destinations of process wastewater are not shown on the diagram (i.e., the stream is entering from or exiting to a ocation not shown on the diagram), describe the source or destination (e.g., "from river" or 'to wastewater treatment") and add the PFD number, when appropriate, where the stream's previous or next location can be seen.	G
The PFD number and your site ID number are written on the diagram.	G
f you believe that the diagram should be treated as confidential, stamp it "Confidential" or write "Confidential" or "CBI" across the top. If any diagram is not marked "Confidential", it will be considered ponconfidential under 40 CFR Part 2. Subpart B	G



Continuous Casting Example Process Flow Diagram

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COMMENTS FOR SECTION 2J: CASTING

Cross reference your comments by question number and indicate the confidential status of your comment by checking () the box in the column titled "CBI" (Confidential Business Information). If you need additional space, photocopy this page before writing on it and number each copy in the space provided in the upper right corner.

Question Number	CPI	Comment
Number	CBI G	Comment
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Section Copy of

SECTION 2K. HOT FORMING

TECHNICAL INFORMATION HELP LINE: (800) 357-7075



IS HOT FORMING PERFORMED AT THIS SITE?

G YES (CONTINUE)

G No (SKIP to Section 2L)

Throughout this section you will be required to provide information for <u>ALL</u> operable units and water systems related to hot forming processes which were on site during 1997, including units and water systems which may have been idle for an extended period of time due to circumstances such as market conditions, major rebuilds, or labor disputes. If an operable unit or water system was not in operation during 1997, substitute the most recent calendar year when such circumstances did not exist. Note the year of operation and the circumstances in the comments at the end of this section, and provide data from that calendar year.



HOW MANY OPERABLE HOT FORMING PROCESSES WERE ON SITE DURING 1997?

COMPLETE A COPY OF SECTION 2K FOR <u>EACH</u> OPERABLE HOT FORMING PROCESS. NOTE THAT AN ENTIRE MILL WITH MULTIPLE STANDS WOULD BE CONSIDERED A SINGLE PROCESS. NUMBER EACH COPY OF SECTION 2K IN THE SPACE PROVIDED AT THE TOP OF EACH PAGE.

G СВІ	2K-1.	Provide the designation by which your site refers to this hot forming process (e.g., No. 1 strip mill).
G СВІ	2K-2.	What was the first year of operation for this hot forming process?
G СВІ	2K-3. a.	What is the total rated capacity of this hot forming process (without considering reheat furnace capacity) in tons of steel formed per year? tons/year (to three significant figures, e.g., 635,000 tons/year)
G СВІ	b.	What is the annual number of operating hours used to determine the total rated capacity? hours/year

G CBI 2K-4. Provide annual production data for this hot forming process for each of the five calendar years 1993 through 1997.

Year	Steel formed (tons/year)
1993	
1994	
1995	
1996	
1997	

Part A: Technical Information 2K-1 Section 2K: Hot Forming

014.5	In Proceedings of the Construction	Control Control
2K-5.	Indicate what type of hot forming is G Orawing	регтогтеа at this process. G Pipe and tube - seamless (piercing)
	G Extrusion	G Pipe and tube - seamless (extrusion)
	G Forging	G Pipe and tube - butt-welded
	G Rolling	G Other (specify):
2K-6. a.	Is scarfing performed in conjunction G Yes (continue) G No (SKIP to Question 2K-7)	with this hot forming process?
b.	Indicate the type of scarfing perform that apply. G Machine scarfing G Hand scarfing	ned in conjunction with this hot forming process. Check (✔) ALL
C.	Indicate the type of scarfing emission G Wet G Dry G None	ns controls. Check (✓) <u>ALL</u> that apply.
2K-7.		rmed at this hot forming process in 1997 . Check () <u>ALL</u> that ach type of steel formed. The percentages should add to 100
	G Carbon	
	G Alloy	
	G Stainless	
	G Other metal products (specify):	
		Total:100
2K-8.	Indicate whether any of the following G Water for descaling G Water for roll or die cooling	g are applied to this hot forming process. Check (✔) ALL that a
	G Water for scale flushing	
	G Synthetic mineral-based or anin	nal-based solutions at one or more stands or stations.

G None of the above

Part A: Technical Information 2K-2 Section 2K: Hot Forming

		Section Copy of				
G CBI 2K-9.a. Provide the number of operable mill stands or process stations employed by this hot forming mill during 1997. Be sure to include all mill stands or process stations from the entrance of the exit of semi-finished or finished product.						
G сві	b. Indicate the type(s) of process station(s) or mill stand(s) employed at this hot forming process or Check (✓) <u>ALL</u> that apply.					
		G Butt-weld G Forging G Scarfer				
		G Coiler G Inside diameter purge G Seamless tube				
		G Deoxidizing station G Intermediate (rolling) G Steckle				
		G Drawing G Piercing G Stretch reducing				
		G Elongator G Rolling G Other (specify):				
		G Extrusion G Roughing (rolling) G Other (specify):				
		G Finishing (rolling) G Scale breaking G Other (specify):				
G сві	C.	s direct contact water* applied at this hot forming process or mill? G Yes (continue) G No (SKIP to Question 2K-9.e.)				
G сві	d.	s the direct contact water* recirculated or applied once-through? G Recirculated G Once-through				
G сві	e.	Are forming/rolling solutions* applied at this hot forming process or mill? G Yes (continue) G No (SKIP to Question 2K-9.g.)				
G сві	f.	Are the forming/rolling solutions* recirculated or applied once-through? G Recirculated G Once-through				
G сві	g.	Are wet emission controls employed for this hot forming process or mill? G Yes G No				
G сві	h.	s flume flushing used for scale removal at this hot forming process or mill? G Yes G No				
G СВІ	i.	s the wastewater from this hot forming process or mill discharged to one or more scale pit(s)? G Yes G No				

Part A: Technical Information 2K-3 Section 2K: Hot Forming

^{*}Forming/rolling solutions have chemicals added to aid in the forming/rolling process. Direct contact water does not.

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G CBI 2K-10.a. Indicate the product(s) formed at this hot forming process. Check (✓) <u>ALL</u> that apply. For each product checked, provide the ranges of shape (see examples below) and dimensional data in the table unless shaded. Provide ranges if appropriate.

	Product	Shape	Length (feet)	Width or Diameter (inches)	Thickness (inches)
G	Bars				
G	Beams				
G	Billets (if shape is round, do not provide thickness)				
G	Blooms				
G	Pipes (provide inside diameter and wall thickness)				
G	Plates				
G	Railroad rails				
G	Railroad wheels				
G	Reinforcing bar				
G	Rods				
G	Sheets				
G	Slabs				
G	Small structurals				
G	Strips				
G	Tubes (provide outside diameter or width and wall thickness)				
G	Wire				
G	Other (specify):				
G	Other (specify):				
G	Other (specify):				
G	Other (specify):				
G	Other (specify):				

Examples of shape: Beams: H, I, wide-flange

Bars: square, rectangular, hexagonal Billets: square, rectangular, round Small structurals: angles, channels, tees, zees

G CBI b.	Provide the dimensions of the hot formed product which had the highest production in 1997.					
	Shape Length Width	Thickness				
G CBI C.	What was the annual production for this product in 1997?	tons per year				
G CBI d	What percent of overall production in 1997 at this process did this pro-	roduct represent?				

		Se	ction Copy _	of	Сору	of	
		HOW MANY SEPARATE OPERABLE DIRECT			OR ROLLING SO	LUTION	
	STOP	SYSTEMS WERE ON SITE AT THIS HOT FORMING	PROCESS DURI	NG 1997 ?			
		COMPLETE A COPY OF QUESTION 2K-11 FOR EA ROLLING SOLUTION SYSTEM. NUMBER EACH COP' CORNER. NOTE: QUESTION 2K-11 IS THREE PAGE	Y OF QUESTION				
		IF YOUR SITE DOES NOT HAVE ANY DIRECT CONTA WITH THIS HOT FORMING PROCESS, CHECK THE B 2K-12.				SOCIATED	
Э СВІ	2K-11. a.	Indicate the function(s) of this direct contact of G High pressure descaling spray G Roll and/or roll table spray cooling G Die spray cooling G Scarfer emissions control G Hot shear spray cooling G Flume flushing G Low pressure/laminar flow cooling G Product cooling including runout tables G Other (specify):			. Check (√) <u>AL</u>	L that apply.	
G CBI	b.	What year was this direct contact water syste	em installed?				
G СВІ	C.	Is the water or solution recirculated or applie G Recirculated (continue) G Once-through (SKIP to Question 2K-11.j		gh?			
G СВІ	d.	Is any treatment and/or conditioning (e.g., chemical additions) performed in the recirculating loop? G Yes (continue) G No (SKIP to Question 2K-11.h.)					
G СВІ	e.	Does the treatment in the recirculating loop a G No - Dedicated treatment G Yes - Treatment shared with other proce		stewater from othe	er processes?		
		Specify the processes:					
G СВІ	f.	Check () ALL treatment units and/or treatment G Clarifiers G Classifiers G Cooling towers G Earthen Lagoons G Lined (specify liner type): G Clay G Synthetic G Other (specify): G Unlined	G G G G G	es which are included oil skimmers Scale pits Sludge dewatering pressure filtration Water filters (e.g., Water softeners Other (specify): Other (specify): None	ng units (e.g., va , etc.) , sand, multime	cuum filter, dia, etc.)	

Part A: Technical Information 2K-5 Section 2K: Hot Forming

			Section Copy	of	Сору	of		
		COMPLETE A COPY OF QUESTION 2K-11 FOR EACH OPERABLE DIRECT CONTACT WATER OR ROLLING SOLUTION SYSTEM.						
G сві	2K-11.g. (cont.)	Indicate chemical additions to the water G Acid G Caustic (sodium hydroxide) G Corrosion inhibitor G Emulsified rolling oils G Lime	G G G	tem. Check () ALL Polymer Scale inhibitor Surfactant Other (specify): None				
G сві	h.	Provide the design flow of water through	n the recirculating	loop.		gpm		
G сві	i. Provide the average recirculation rate of water through the system and period of operation.							
		gpm	hours per	day	day	/s per year		
G сві	j.	Provide the average rate at which new water is added to the system (for once-through systems, provide the influent flow rate; for recirculating systems, provide the makeup flow rate).						
		gallons pe	er day		day	/s per year		
G СВІ	k.	Indicate <u>ALL</u> sources for water addition. The percentages should add to 100 per	ntributed by ea	ch source.				
			%					
	G Noncontact cooling water (specify manufacturing process(es)):					%		
		G Treated process wastewater (specify manufacturing process(es)):						
		G Untreated process wastewater (specify manufacturing process(es)):						
		G Treated storm water (specify manufacturing process(es) or other collection area(s)):				%		
		G Untreated storm water (specify manufacturing process(es) or other collection area(s)):						
		G Other (specify):				%		
					Total 100	%		

_____ hours per day

_____ gallons per day

Provide the average discharge rate from the system and period of discharge (for recirculating systems,

_____ days per year

_____ days per year

G CBI |.

provide the blowdown rate).

_____ gpm

OR:

					Section	n Copy	of	Сору	of
	COMPLETE A COPY OF QUESTION 2K-11 FOR EACH OPERABLE DIRECT CONTACT WATER OR ROLLING SOLUTION SYSTEM.								
G сві	CBI 2K-11.m. Indicate the destination of wastewater discharge or blowdown. Check (✓) ALL that apply								
	(cont.)	G	Discharge	to treatment (spec	cify treatment s	ystem):			
		G	Discharge outfall nun	without treatment mber):			conveyance	,	specify
	G Discharge without treatment by pipeline, sewer, or other for permit monitoring location):						conveyance	e to POTW (specify	/ designation
		G	_	without treatment			•	• • •	-
		G	-	narge or alternative	•				
			_	well injection	·				
			G Evapo	oration (specify me	thod):				
			G Perco	lation pond	,				
			G Spray	irrigation					
			G Contra	act hauled					
				ify disposal rate, in ify destination/disp				per gallon	

G Other (specify):

G Incineration

		Sect	ion Copy	of	Сору	of
	CTOD	HOW MANY OPERABLE WET AIR POLLUTION FORMING PROCESS DURING 1997 ? A WAPC SYST				
	SIUP	UNIT	TEM MAY INCLUDE	MOLTIPLE DEVICES	SERVING THE SAME	PROCESSING
		COMPLETE A COPY OF QUESTION 2K-12 FOR EAC 2K-12 IN THE SPACE PROVIDED IN THE UPPER RIGH				
		IF YOUR SITE DOES NOT HAVE WET AIR POLLUTION (CONTROL ASSOCI	ATED WITH THIS HO	T FORMING PROCES	SS, CHECK THE
		BOX TO THE RIGHT AND SKIP TO QUESTION 2K-13				G
G СВІ	2K-12. a.	Provide the designation(s) of all operations as: WAPC system is already provided elsewhere i the right, and SKIP to Question 2K-13.				
G СВІ	b.	This WAPC system controls emissions from wapply.		lowing processe	s? Check (✔) <u>/</u>	\LL that
		G Raw material handling, preparation, and sG Process station or mill stand emissions	storage			
		G Reheat furnace				
		G Building evacuation				
		G Other (specify):				
G СВІ	C.	Indicate the devices in this WAPC system. Ch	` '			
		G Venturi scrubber		emister		
		G Spray chamber		acked tower		
		G Evaporator chamberG Separator		ther <i>(specify)</i> : _ ther <i>(specify)</i> : _		
G СВІ	d.	Provide the gas or air flow through the system				
		dscfm	·	·	, ,	
0			.1.0			
G CBI	e.	Is the water recirculated or applied once-throu G Recirculated (continue)	ign?			
		G Once-through (SKIP to Question 2K-12.l.)				
		Once-through (Orth to Question 21(-12.i.)				
G CBI	f.	Is any treatment and/or conditioning (e.g., che	mical addition	s) performed in t	the recirculating	g loop?
		G Yes (continue)				
		G No (SKIP to Question 2K-12.j.)				
G СВІ	g.	Does the treatment in the recirculating loop als	so treat waste	water from other	processes?	
		G No - Dedicated treatment				
		G Yes - Treatment shared with other process	ses			
		Specify the processes:				

			Section Copy	of	Copy_	of
		COMPLETE A COPY OF QUESTION	2K-12 FOR <u>EACH</u>	OPERABLE WAPC SYSTEM	м.	
G сві	2K-12. h.	Check (✓) <u>ALL</u> treatment units and/or	treatment process	es which are included in	the reci	rculating loop.
	(cont.)	G Clarifiers	G	Oil skimmers		
		G Classifiers	G	Scale pits		
		G Cooling towers	G	Sludge dewatering unit	ts (e.g., [,]	vacuum filter,
		G Earthen Lagoons	_	pressure filtration, etc.)		
		G Lined (specify liner type):		Water filters (e.g., sand	d, multin	nedia, etc.)
		G Clay		Water softeners		
		G Synthetic		Other (specify):		
		G Other (specify):		Other (specify):		
		G Unlined	G	None		
Э СВІ	i.	Indicate chemical additions to the wate	-		t apply.	
		G Acid		Scale inhibitor		
		G Caustic (sodium hydroxide)	G	Surfactant		
		G Corrosion inhibitor		Other (specify):		
		G Lime	_	Other (specify):		
		G Polymer	G	None		
Э СВІ	j.	Provide the design flow of water throug	the recirculating	loop.		gpm
З СВІ	k.	Provide the average recirculation rate of	of water through th	e WAPC system and pe	eriod of c	peration.
		gpm	hours per o	day	d	lays per year
G СВІ	I.	Provide the average rate at which new the influent flow rate; for recirculating s			ough sys	stems, provide
		gallons p	er day		d	ays per year
G сві	m.	Indicate <u>ALL</u> sources for water addition The percentages should add to 100 pe		centage of water contrib	uted by	each source.
		G Plant service water (city, well, or su elsewhere on site)	urface water which	has not been used		%
		G Noncontact cooling water (specify	manufacturing pro	ocess(es)):		%
		G Treated process wastewater (spec	ify manufacturing	process(es)):		%
		G Untreated process wastewater (sp	ecify manufacturin	ng process(es)):		%
		G Treated storm water (specify manuarea(s)):	- ·		_ 	%
		G Untreated storm water (specify ma			1	%
		G Other (specify):			_	%
				Total	:10	00%

Part A: Technical Information 2K-9 Section 2K: Hot Forming

			Section Copy	of	Сору	of
		COMPLETE A COPY OF Q	UESTION 2K-12 FOR EACH OPI	ERABLE WAP(C system.	
G сві	2K-12.n. (cont.)	Provide the average discharge provide the blowdown rate).	rate from the system and per	iod of discha	rge (for recirculati	ng systems,
		gpm	hours per day	_	day	/s per year
		OR:	gallons per da	ny	day	/s per year
G CBI	O	G Discharge without treatment for permit monitoring location G Discharge without treatment designation for permit monitoring location G Zero discharge or alternative G Deep-well injection G Evaporation (specify management) G Percolation pond G Spray irrigation G Contract hauled (specify disposal rate, in (specify destination/disposal rate) G Incineration	ecify treatment system): It by pipeline, sewer, or other on): It by pipeline, sewer, or other on): It by pipeline, sewer, or other itoring location if applicable):	conveyance	to surface water (to POTW (specify to PrOTW (specif	specify designation y

Section Copy of

G CBI 2K-13.a. Are any dry air pollution control (DAPC) systems associated with this hot forming process?

G Yes (continue)

G No (SKIP to Question 2K-14)

G CBI b. Indicate the process(es) associated with DAPC systems in this hot forming process. Check (✓) <u>ALL</u> that apply. For each process checked, indicate the type of DAPC system.

	Process	Type of DAPC System
G	Raw material handling, preparation, and storage associated with this hot forming process	 G Fabric filter (i.e., baghouse) G Electrostatic precipitator G Other (specify):
G	Process station or mill stand emissions	 G Fabric filter (i.e., baghouse) G Electrostatic precipitator G Other (specify):
G	Reheat furnace	 G Fabric filter (i.e., baghouse) G Electrostatic precipitator G Other (specify):
G	Building evacuation associated with this hot forming process	 G Fabric filter (i.e., baghouse) G Electrostatic precipitator G Other (specify):
G	Other (specify):	 G Fabric filter (i.e., baghouse) G Electrostatic precipitator G Other (specify):
G	Other (specify):	 G Fabric filter (i.e., baghouse) G Electrostatic precipitator G Other (specify):
G	Other (specify):	 G Fabric filter (i.e., baghouse) G Electrostatic precipitator G Other (specify):
G	Other (specify):	G Fabric filter (i.e., baghouse) G Electrostatic precipitator G Other (specify):
G	Other (specify):	G Fabric filter (i.e., baghouse) G Electrostatic precipitator G Other (specify):

Part A: Technical Information 2K-11 Section 2K: Hot Forming

			Section C	ору	OI	Сору	01
	STOP	EXCLUDING DIRECT CONT					HER
		COMPLETE A COPY OF QUES COPY OF QUESTION 2K-14 II PAGES LONG.	TION 2K-14 FOR <u>EACH</u> HOT N THE SPACE PROVIDED IN TH				
		IF YOUR SITE HAS NO HOT FO WITH A DIRECT CONTACT WA SKIP TO QUESTION 2K-15.	RMING PROCESS SOURCES W TER SYSTEM, A WAPC SYSTI				
	2K-14.	Provide information for this	hot forming process and	related on-	site wastew	ater generating	sources.
G СВІ	a.	Indicate the source of proce pollution control, or storm w question for EACH hot form	ater. If there is more that				
		G Lubricating oil condition	systems				
		G Strip coilers					
		G Roll shops					
		G Basement sumps					
		G Rolling solution					
		G Scarfer water					
		G Equipment cleaning and	d washdown water				
		G Other (specify):	a washdown water				
G СВI	b.	Provide a list of chemicals of wastewater. If a list is readil written on the upper right consolution (e.g., solutions use product and the product cool	ly available, attach it to the structure. If a chemical or ped to clean and wash equ	ne survey w ollutant orig	vith this ques pinates from	tion number and a commercial c	d your site ID leaning
G сві	C.	Provide the wastewater flow (provide a best engineering				e source check	ed above
		gpm	hours	per day		day	s per year
		OR:	gallor	ns per day		day	s per year

Part A: Technical Information 2K-12 Section 2K: Hot Forming

				Section Copy	ot	Сору	ot
	Con	MPLET	E A COPY OF QUESTION 2K-14 FOR EACI NOT ASSOCIATED WITH A DIRECT CONTA				VATER
G СВІ	2K-14. d.	Ind	icate the destination of this wastewate	r stream. Check (∕) <u>ALL</u> that a	pply.	
	(cont.)	G	Discharge to treatment (specify treat	ment system):			
		G		ine, sewer, or othe	-	to surface water (s	specify
		G				to POTW (specify	designation
		G	Discharge without treatment by pipel designation for permit monitoring loc		•		
		G	Zero discharge or alternative disposa				
			G Deep-well injection				
			G Evaporation (specify method):				
			G Percolation pond				
			G Spray irrigation				
			G Contract hauled				
			(specify disposal rate, including ((specify destination/disposal me				
			G Incineration				
			G Other (specify):				

Section Copy of

G CBI 2K-15. Provide information on any major process modifications and/or shut downs which have occurred at this hot forming process since 1993.

Shut Down or Modification?	Date	Description

G CBI 2K-16. Provide information on any publicly announced process modifications and/or shut downs planned to occur during the next five years (1998 to 2002) at this hot forming process.

Shut Down or Modification?	Anticipated Date	Description

Section	Copy	of	

G CBI 2K-17. Indicate <u>ALL</u> pollution prevention (waste reduction) or management practices implemented by your site for this hot forming process and describe the practice as it is implemented. Describe all processes where by-products and wastes are recovered for reuse or sold as a raw material feedstock. Discuss the percent recovered.

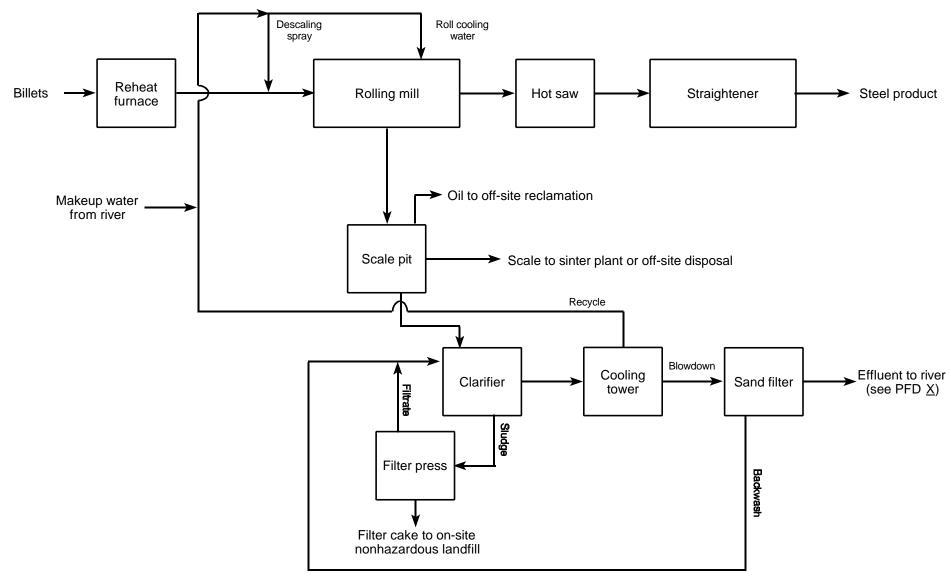
	Management Practices	Description of Practice
G	Management of spillage and losses from raw material handling operations associated with this hot forming process	
G	Management of runoff from raw material or product storage piles associated with this hot forming process	
G	Management of fugitive discharges of process wastewaters and materials to this hot forming process noncontact cooling water (NCCW) system	
G	Surveillance and corrective action programs for oil discharges from large NCCW flows associated with this hot forming process	
G	Collection and treatment and/or disposal of storm water from any areas associated with this hot forming process (specify manufacturing processes or other collection areas in the description)	
G	Collection and treatment and/or disposal of landfill leachate from any landfills associated with this hot forming process's wastes	
G	Collection and treatment and/or disposal of contaminated ground waters associated with this hot forming process	
G	Practices for oil selection, management, and conservation at this hot forming process	
G	Other (specify):	
G	Other (specify):	

Part A: Technical Information 2K-15 Section 2K: Hot Forming

G CBI	2K-18.	Attach a process flow diagram (PFD) that shows this hot forming process and the water use associated with this process. You are <u>NOT</u> required to create a new PFD if an existing diagram will suffice. Number the diagram in the upper right corner, and include your site ID number (as shown on the cover page of Part A). Specific instructions for including the PFD, along with an example diagram, are provided below. Flow rates are <u>NOT</u> required on the diagrams.			
		Provide the PFD number assigned to this hot forming process PFD. If the process is already sho on a PFD provided elsewhere in this survey, provide the PFD number and review the follow list for completeness. If you need assistance, call the Technical Information Help Line at (800) 3 7075.	ing		
		Hot forming PFD			
		Process Flow Diagram Checklist			
		Be sure	1		
		All hot forming operations are included. Include those operations which do not generate process wastewater.	G		
		All air pollution control systems are included. Label each system as being either wet or dry. Water streams for all wet air pollution control systems must be shown, including all recycle streams and all treatment processes within recycle loops.	G		
		Any recycle or reuse of process wastewater or other waters is indicated clearly on the diagram.	G		
		Any in-process wastewater treatment or reuse technologies are indicated. Show and label all treatment units and all recycle loops.	G		
		Significant losses of water (e.g., evaporation) are shown.	G		
		All materials entering each operation and all products and wastes exiting each operation are identified. Wastes include wastewater, sludges, baghouse dust, and point-source air emissions. Noncontact cooling water systems which do not contain process wastewater and do not discharge to process wastewater systems do not need to be included.	G		
		All process wastewater streams are identified. When sources and destinations of process wastewater are not shown on the diagram (i.e., the stream is entering from or exiting to a location not shown on the diagram), describe the source or destination (e.g., "from river" or "to wastewater treatment") and add the PFD number, when appropriate, where the stream's previous or next location can be seen.	G		
		The PFD number and your site ID number are written on the diagram.	G		
		If you believe that the diagram should be treated as confidential, stamp it "Confidential" or write "Confidential" or "CBI" across the top. If any diagram is not marked "Confidential", it will be considered nonconfidential under 40 CFR Part 2, Subpart B.	G		

Section Copy ___

of



Hot Forming Example Process Flow Diagram

	_	_	_	
Section Copy	of	Copy	of	

COMMENTS FOR SECTION 2K: HOT FORMING

Cross reference your comments by question number and indicate the confidential status of your comment by checking () the box in the column titled "CBI" (Confidential Business Information). If you need additional space, photocopy this page before writing on it and number each copy in the space provided in the upper right corner.

Question Number	СВІ	Comment
	G	
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SECTION 2L. ACID PICKLING AND DESCALING (INCLUDING ACID REGENERATION)

TECHNICAL INFORMATION HELP LINE: (800) 357-7075



IS ACID PICKLING AND/OR DESCALING PERFORMED	AT THIS SITE (REFE	R TO THE DEFINITION	S SECTION FOR ACID
CLEANING AND ACID PICKLING)?			

G VEC

 G No

IS ACID REGENERATION PERFORMED AT THIS SITE?

G YES

G No

IF "NO" IS INDICATED FOR BOTH QUESTIONS, SKIP TO SECTION 2M.

If ACID REGENERATION IS PERFORMED BUT ACID PICKLING AND DESCALING ARE NOT PERFORMED AT THIS SITE, SKIP TO QUESTION 2L-9.

THROUGHOUT THIS SECTION, YOU WILL BE REQUIRED TO PROVIDE INFORMATION FOR <u>ALL</u> OPERABLE UNITS AND WATER SYSTEMS RELATED TO ACID PICKLING, DESCALING, AND/OR ACID REGENERATION WHICH WERE ON SITE DURING 1997, INCLUDING UNITS AND WATER SYSTEMS WHICH MAY HAVE BEEN IDLE FOR AN EXTENDED PERIOD OF TIME DUE TO CIRCUMSTANCES SUCH AS MARKET CONDITIONS, MAJOR REBUILDS, OR LABOR DISPUTES. IF AN OPERABLE UNIT OR WATER SYSTEM WAS NOT IN OPERATION DURING 1997, SUBSTITUTE THE MOST RECENT CALENDAR YEAR WHEN SUCH CIRCUMSTANCES DID NOT EXIST. NOTE THE YEAR OF OPERATION AND THE CIRCUMSTANCES IN THE COMMENTS AT THE END OF THIS SECTION, AND PROVIDE DATA FROM THAT CALENDAR YEAR.



ACID PICKLING AND DESCALING OPERATIONS INCLUDE ACID PICKLING, SALT BATH DESCALING, DESCALING PERFORMED WITH OTHER SOLUTIONS SUCH AS ELECTROLYTIC SODIUM SULFATE, AND THEIR ASSOCIATED RINSING OPERATIONS.

FOR THIS SECTION AND SECTION 2N, INFORMATION IS COLLECTED FOR PROCESS LINES OR AREAS. THESE LINES OR AREAS CAN BE DEFINED BY SITE PERSONNEL. IF THE PRIMARY FUNCTION OF THE PROCESS LINE OR AREA IS CLEANING (E.G., ACID AND ALKALINE CLEANING) OR COATING (E.G., HOT DIP COATING AND ELECTROPLATING), THEN COMPLETE SECTION 2N INSTEAD OF THIS SECTION. IF ACID PICKLING OR DESCALING IS PERFORMED IN CONJUNCTION WITH ANNEALING IN THE SAME PROCESS LINE OR AREA, THEN INCLUDE ANNEALING IN THIS SECTION.

HOW MANY OPERABLE ACID PICKLING AND/OR DESCALING LINES OR AREAS WERE ON SITE DURIN
1997 ?

COMPLETE A COPY OF QUESTION 2L-1 THROUGH 2L-8 FOR <u>EACH</u> OPERABLE ACID PICKLING AND/OR DESCALING PROCESS LINE OR AREA. NUMBER EACH COPY OF QUESTIONS 2L-1 THROUGH 2L-8 IN THE SPACE PROVIDED IN THE UPPER RIGHT CORNER. NOTE: QUESTIONS 2L-1 THROUGH 2L-8 ARE 11 PAGES LONG.

G СВІ	2L-1.	Provide the designation by which your site refers to this process line or area (e.g., No. 1 hydrochloric pickling line).		
G СВІ	2L-2.	What was the first year of operation for this process line or area?		

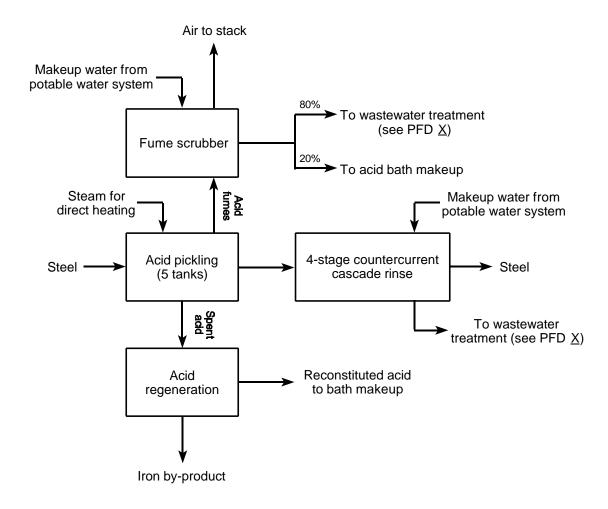
Attach a process flow diagram (PFD) that shows the operations and the water use associated with this process. You are <u>NOT</u> required to create a new PFD if an existing diagram will suffice. Number the diagram in the upper right corner, and include your site ID number (as shown on the cover page of Part A). Specific instructions for including the PFD, along with an example diagram, are provided below. Flow rates are NOT required on the diagrams.

Provide the PFD number assigned to the PFD. If the process is already shown on a PFD provided elsewhere in this survey, provide the PFD number and review the following list for completeness. If you need assistance, call the Technical Information Help Line at (800) 357-7075.

Acid pickling and/or descaling (including acid regeneration) PFD-_____

Process Flow Diagram Checklist

Be sure	✓
All acid pickling and/or descaling (including acid regeneration) operations on the line or in the area are included. Include those operations which do not generate process wastewater.	G
All air pollution control systems are included. Label each system as being either wet or dry. Water streams for all wet air pollution control systems must be shown, including all recycle streams and all treatment processes within recycle loops.	G
Any recycle or reuse of process wastewater or other waters is indicated clearly on the diagram.	G
Any in-process wastewater treatment or reuse technologies are indicated. Show and label all treatment units and all recycle loops.	G
Significant losses of water (e.g., evaporation) are shown.	G
All materials entering each operation and all products and wastes exiting each operation are identified. Wastes include wastewater, sludges, baghouse dust, and point-source air emissions. Noncontact cooling water systems which do not contain process wastewater and do not discharge to process wastewater systems do not need to be included.	G
All process wastewater streams are identified. When sources and destinations of process wastewater are not shown on the diagram (i.e., the stream is entering from or exiting to a location not shown on the diagram), describe the source or destination (e.g., "from river" or "to wastewater treatment") and add the PFD number, when appropriate, where the stream's previous or next location can be seen.	G
The PFD number and your site ID number are written on the diagram.	G
If you believe that the diagram should be treated as confidential, stamp it "Confidential" or write "Confidential" or "CBI" across the top. If any diagram is not marked "Confidential", it will be considered nonconfidential under 40 CFR Part 2. Subpart B.	G



Acid Pickling Line Example Process Flow Diagram

		Questions 2L-1 to 2L-8 Copy of
G СВІ	2L-4. a.	What is the total rated capacity of this process line or area in tons of steel pickled or descaled per year?
		tons/year (to three significant figures, e.g., 825,000 tons/year)
G сві	b.	What is the annual number of operating hours used to determine the total rated capacity?
		hours/year
G СВІ	2L-5.	Indicate the operations performed at this process line or area. Check (\checkmark) <u>ALL</u> that apply. Indicate the number of operable units for each type of process.

Type of Process	Number of Operable Units (e.g., tanks or furnaces) in This Process Line or Area
G Acid pickling	
G Acid pickling rinse	
G Acid cleaning	
G Acid cleaning rinse	
G Alkaline cleaning	
G Alkaline cleaning rinse	
G Descaling - Kolene® bath	
G Descaling - Hydride® bath	
G Descaling - electrolytic sodium sulfate	
G Descaling rinse	
G Annealing	
G Annealing quench or rinse	
G Other (specify):	

G CBI 2L-6. Provide annual production data for this process line or area for each of the five calendar years 1993 through 1997.

Year	Steel Pickled or Descaled (tons/year)
1993	
1994	
1995	
1996	
1997	

G CBI 2L-7.a. Indicate the product(s) processed on this line or area. Check (✓) <u>ALL</u> that apply. For each product checked, provide the ranges of shape (see examples below) and dimensional data in the table unless shaded. Provide ranges if appropriate.

	Product	Shape	Length (feet)	Width or Diameter (inches)	Thickness (inches)
G	Bars	·		, ,	, ,
G	Billets (if shape is round, do not provide thickness)				
G	Pipes (provide inside diameter and wall thickness)				
G	Plates				
G	Reinforcing bar				
G	Rods				
G	Sheets				
G	Small structurals				
G	Strips				
G	Tubes (provide outside diameter or width and wall thickness)				
G	Wire				
G	Other (specify):				
G	Other (specify):				
G	Other (specify):				
G	Other (specify):				
G	Other (specify):				

Examples of shape: Beams: H, I, wide-flange

Bars: square, rectangular, hexagonal Billets: square, rectangular, round Small structurals: angles, channels, tees, zees

G СВІ	b.	Provide the dimensions of the product processed on this line or area which had the highest product in 1997 .			
		Shape	Length	Width	Thickness
G сві	C.	What was the annual pro	oduction for this product in	1997 ?	_ tons per year
G сві	d.	What percent of overall production in 1997 at this process did this product represent?9			



G CBI 2L-8.a.

G CBI b.

G CBI C.

HOW MANY **OPERATIONS, INCLUDING ASSOCIATED RINSES,** ARE IN THIS PROCESS LINE OR AREA?

NO CO	OMPLETE A COPY OF QUESTION 2L-8 FOR <u>EACH</u> OPER AMPLE, TWO ACID PICKLING BATHS FOLLOWED BY THREIT RESPOND TO THIS QUESTION FOR ANNEALING FURNAM PY OF QUESTION 2L-8 IN THE SPACE PROVIDED IN THE	E RINSI CES UN	ES ONLY NEED ONE RESPONSE TO QUESTION 2L-8. DO ILESS FOLLOWED BY A WATER QUENCH. NUMBER EACH
LO	NG.		
	e the designation by which your site refers to able).	this o	peration (and its associated rinse, if
ndicat pply.	re the type of operation (and its associated rin	nse, if	applicable) performed. Check (✓) ALL that
	sid pickling	G	Descaling
• Ac	id pickling rinse		G Kolene® bath
All	kaline cleaning		G Hydride® bath
All	kaline cleaning rinse		G Electrolytic sodium sulfate
Ba	atch annealing		G Other (specify):
	ontinuous annealing	G	Descaling rinse
• Ar	nealing rinse or quench	G	Other (specify):
	e the previous operation and/or rinse that the at apply.	steel	entering this operation had left. Check (✓)
• Ac	sid pickling	G	Descaling rinse
• Ac	id pickling rinse	G	Batch annealing
	kaline cleaning	G	Continuous annealing
All	kaline cleaning rinse	G	Annealing rinse or quench
De	escaling	G	Cold forming
G	Kolene® bath	G	Hot forming
G	Hydride® bath	G	Other (specify):
G	Electrolytic sodium sulfate	G	Other (specify):
G	Other (specify):	G	Other (specify):
	A - Beginning of process line		

G

CB و	SI .	d.	Indicate	the next	operation t	that	the steel	leaving the	his op	peration	would	enter.	Che	ck (/) <u>#</u>	<u> 114</u>	that	appl	y.
------	------	----	----------	----------	-------------	------	-----------	-------------	--------	----------	-------	--------	-----	------	-------------	-------------	------	------	----

G Acid pickling **G** Acid cleaning G Alkaline cleaning **G** Batch annealing

G Continuous annealing

G Cold forming

G NA - End of process line

G Descaling

G Kolene® bath

G Hydride® bath **G** Electrolytic sodium sulfate

G Other (specify):

G Other (specify):

COMPLETE A COPY OF QUESTION 2L-8 FOR <u>EACH</u> OPERATION AND ITS ASSOCIATED RINSE AT THIS PROCESS LINE OR AREA.

G CBI	2L-8.e. (cont.)	Indicate the chemicals added to the solution of this operation and the solution If there are multiple tanks for this operation, provide the range of solution stre		oy volume).
		G Hydrochloric acid		%
		G Sulfuric acid		%
		G Nitric acid		%
		G Hydrofluoric acid		%
		G Sodium hydroxide		%
		G Potassium hydroxide		%
		G Kolene®		%
		G Hydride®		%
		G Chromic acid		%
		G Sodium dichromate		%
		G Urea		%
		G Other (specify):		%
		G Other (specify):		
		G Other (specify):		
		G Other (specify):		
		G Other (specify):		
		G Other (specify):		
		G Other (specify):		
		G None added		
G СВІ	f.	Indicate the method for heating the solution from this operation (and its associated aso	iated rinse, if	applicable).
		Heating Method	Solution	Rinse
		Direct steam injection	G	G
		Indirect heating with heat exchanger (noncontact)	G	G
		Other (specify):	G	G
		Other (specify):	G	G
		Not heated (if both are checked, SKIP to Question 2L-8.h)	G	G
G СВІ	g.	Provide the operating temperature of the solution from this operation (and its applicable). For multiple tanks operating in series at different temperatures, present temperatures.		

COMPLETE A COPY OF QUESTION 2L-8 FOR <u>EACH</u> OPERATION AND ITS ASSOCIATED RINSE AT THIS PROCESS LINE OR AREA.

G CBI 2L-8.h. Indicate the method for agitating or stirring the solution from this operation (and its associated rinse, if applicable).

Agitating or Stirring Method	Solution	Rinse
Air sparging	G	G
Mechanical agitation	G	G
Other (specify):	G	G
Other (specify):	G	G
Not agitated or stirred	G	G

G CBI i. Is a fume scrubber or wet air pollution control system associated with the solution from this operation (and its associated rinse, if applicable).

Associated Fume Scrubber or Wet Air Pollution Control	Solution	Rinse
Yes	G	G
No	G	G

——————————————————————————————————————			
elsewhere on site) G Noncontact cooling water (specify manufacturing process(es)): G Treated process wastewater (specify manufacturing process(es)): G Untreated process wastewater (specify manufacturing process(es)): G Treated storm water (specify manufacturing process(es) or other collection area(s)): G Untreated storm water (specify manufacturing process(es) or other collection area(s)): G Other (specify): Total: 100 G CBI k. Provide the blowdown or discharge rate of the SOLUTION from this operation and period of discenders are day days per	G СВІ ј.		le the percentage
G Treated process wastewater (specify manufacturing process(es)): G Untreated process wastewater (specify manufacturing process(es)): G Treated storm water (specify manufacturing process(es) or other collection area(s)): G Untreated storm water (specify manufacturing process(es) or other collection area(s)): G Other (specify): Total: 100 G CBI k. Provide the blowdown or discharge rate of the SOLUTION from this operation and period of discessing the specific process (es) or other collection area(s) (es) or other coll			%
G Untreated process wastewater (specify manufacturing process(es)): G Treated storm water (specify manufacturing process(es) or other collection area(s)): G Untreated storm water (specify manufacturing process(es) or other collection area(s)): G Other (specify): Total: 100 G CBI k. Provide the blowdown or discharge rate of the SOLUTION from this operation and period of discentification and period of discentification.		G Noncontact cooling water (specify manufacturing process(es)):	%
G Treated storm water (specify manufacturing process(es) or other collection area(s)): G Untreated storm water (specify manufacturing process(es) or other collection area(s)): G Other (specify): Total: 100 G CBI k. Provide the blowdown or discharge rate of the SOLUTION from this operation and period of disc days per		G Treated process wastewater (specify manufacturing process(es)):	%
G Untreated storm water (specify manufacturing process(es) or other collection area(s)): G Other (specify): Total: 100 G CBI k. Provide the blowdown or discharge rate of the SOLUTION from this operation and period of disc days per		G Untreated process wastewater (specify manufacturing process(es)):	%
area(s)):			%
Total:			%
G CBI k. Provide the blowdown or discharge rate of the SOLUTION from this operation and period of disc gpm hours per day days per		G Other (specify):	%
gpmhours per daydays per		Total:	100 %
	G СВІ k.	Provide the blowdown or discharge rate of the <u>SOLUTION</u> from this operation and pe	riod of discharge.
OR: gallons per day days per		gpmhours per day	days per year
		OR: gallons per day	days per year

COMPLETE A COPY OF QUESTION 2L-8 FOR <u>EACH</u> OPERATION AND ITS ASSOCIATED RINSE AT THIS PROCESS LINE OR AREA

G СЫ	(cont.)	ALL that apply.	non this oper	ation. Check	(/)			
	(,	G On-site regeneration and	d reuse					
		G Discharge to treatment (specify treatment system):					
		G Discharge without treatm outfall number):	nent by pipeline, sewer, or other conveyance to surface	water (specify	/			
		G Discharge without treatment by pipeline, sewer, or other conveyance to POT for permit monitoring location):						
			nent by pipeline, sewer, or other conveyance to PrOTW onitoring location if applicable):					
		G Zero discharge or alterna	ative disposal methods:					
		G Deep-well injection						
		G Evaporation (specify	method):					
		G Percolation pond						
		G Spray irrigation						
		G Contract hauled	a including transportation). A	ara lla a				
			e, including transportation): \$ per (disposal method):					
		G Incineration	uioposai metrioti).					
		G Plant service water (city, elsewhere on site)	well, or surface water which has not been used er (specify manufacturing process(es)):		G %			
		- Noncontact cooling water	1 (specify manufacturing process(es)).		/*			
		G Treated process wastew	rater (specify manufacturing process(es)):		%			
		G Untreated process waste	ewater (specify manufacturing process(es)):		%			
		` '	ecify manufacturing process(es) or other collection		%			
			specify manufacturing process(es) or other collection		%			
		G Other (specify):			%			
				100				
G сві	n.	Provide the blowdown or disc	charge rate from the ASSOCIATED RINSE and period	of discharge.				
		gpm	hours per day	days per y	year			
		OR:	gallons per day	days per y	year			

COMPLETE A COPY OF QUESTION 2L-8 FOR <u>EACH</u> OPERATION AND ITS ASSOCIATED RINSE AT THIS PROCESS LINE OR AREA.

3 CBI	2L-8.o. (cont.)	Indicate the method(s) by which your site disposes of the <u>ASSOCIATED RINSE</u> . Check (✓) <u>ALL</u> that apply.
	(00111.)	G On-site regeneration and reuse
		G Discharge to another process or rinse (specify process or rinse designation):
		G Discharge to treatment (specify treatment system):
		G Discharge without treatment by pipeline, sewer, or other conveyance to surface water (specify outfall number):
		G Discharge without treatment by pipeline, sewer, or other conveyance to POTW (specify designation for permit monitoring location):
		G Discharge without treatment by pipeline, sewer, or other conveyance to PrOTW (specify designation for permit monitoring location if applicable):
		G Zero discharge or alternative disposal methods:
		G Deep-well injection
		G Evaporation (specify method):
		G Percolation pond
		G Spray irrigation
		G Contract hauled (specify disposal rate, including transportation): \$ per gallon (specify destination/disposal method):
		G Incineration
		G Other (specify):
Э СВІ	p.	Indicate whether the ASSOCIATED RINSE is operated as a spray or immersion.
		G Spray
		G Immersion
		G Both
3 СВІ	q.	Indicate the flow pattern of the ASSOCIATED RINSE.
		G Recirculation with blowdown
		G Multiple-stage countercurrent cascade
		Indicate number of stages:
		G Stagnant with batch dischargeG Once-through with continuous flow
		G Once-through with intermittent flow
		G Other (specify):
		Outer (specify).

	Copy _	of
CTOD	HOW MANY OPERABLE ACID REGENERATION PLANTS WERE ON SITE DURING 1997?	
SIUP	COMPLETE A COPY OF QUESTION 2L-9 FOR <u>EACH</u> OPERABLE ACID REGENERATION PLANT. NUMBER E QUESTION 2L-9 IN THE SPACE PROVIDED IN THE UPPER RIGHT CORNER. NOTE: QUESTION 2L-9 IS ONE	
	IF YOUR SITE DOES NOT HAVE ANY ACID REGENERATION PLANTS, CHECK THE BOX TO THE RIGHT AND SK 2L-10.	(IP TO QUESTION
2L-9. a.	Provide the designation by which your site refers to this acid regeneration plant.	
b.	Which acids are regenerated by this plant? Indicate the solution strength of the regenera by volume).	ted acids (%
	G Hydrochloric acid	%
	G Sulfuric acid	%
	G Other (specify):	%
C.	How many gallons of spent acid are processed in this acid regeneration plant each day?	
0.		
	gallons per day	
d.	Provide the name of the manufacturer of this acid regeneration plant.	
d. e.	Provide the name of the manufacturer of this acid regeneration plant. Provide the method of regeneration and list the products, by-products, and wastes product regeneration plant.	ced by this
	Provide the method of regeneration and list the products, by-products, and wastes products	ced by this
	Provide the method of regeneration and list the products, by-products, and wastes products	
e.	Provide the method of regeneration and list the products, by-products, and wastes product acid regeneration plant. Provide costs paid during 1997 for the disposal of by-products or wastes and the rate of costs posal costs incurred: \$	
e.	Provide the method of regeneration and list the products, by-products, and wastes product acid regeneration plant. Provide costs paid during 1997 for the disposal of by-products or wastes and the rate of costs.	
e.	Provide the method of regeneration and list the products, by-products, and wastes product acid regeneration plant. Provide costs paid during 1997 for the disposal of by-products or wastes and the rate of company disposal costs incurred: G pound	
e.	Provide the method of regeneration and list the products, by-products, and wastes product acid regeneration plant. Provide costs paid during 1997 for the disposal of by-products or wastes and the rate of company disposal costs incurred: G pound Rate of disposal: \$	lisposal.
e.	Provide the method of regeneration and list the products, by-products, and wastes product acid regeneration plant. Provide costs paid during 1997 for the disposal of by-products or wastes and the rate of complete Disposal costs incurred: G pound Rate of disposal: G Not applicable Provide the revenue received during 1997 for the sale of by-products or wastes and the rate of complete	lisposal.
e.	Provide the method of regeneration and list the products, by-products, and wastes product acid regeneration plant. Provide costs paid during 1997 for the disposal of by-products or wastes and the rate of company disposal costs incurred: G pound Rate of disposal: G Not applicable Provide the revenue received during 1997 for the sale of by-products or wastes and the rate of company disposal costs incurred: Revenue received: S	lisposal.

Copy of



HOW MANY <u>OPERABLE WET AIR POLLUTION CONTROL (WAPC) SYSTEMS</u> WERE ON SITE AT THIS ACID PICKLING OR DESCALING OPERATION OR ACID REGENERATION PLANT DURING **1997**? A WAPC SYSTEM MAY INCLUDE MULTIPLE DEVICES SERVING THE SAME PROCESSING UNIT.

COMPLETE A COPY OF QUESTION 2L-10 FOR <u>EACH</u> OPERABLE WAPC SYSTEM. NUMBER EACH COPY OF QUESTION 2L-10 IN THE SPACE PROVIDED IN THE UPPER RIGHT CORNER. NOTE: QUESTION 2L-10 IS THREE PAGES LONG.

IF YOUR SITE DOES NOT HAVE WET AIR POLLUTION CONTROL ASSOCIATED WITH ANY PROCESS LINES OR AREAS, CHECK
THE BOX TO THE RIGHT AND SKIP TO QUESTION 2L-11.

G сві	2L-10. a.	other operations associated with this response(s) to Questions 2L-1 (proce 9.a. (acid regeneration plant). If information of the control of t	cess line(s), unit operation(s), acid regeneration plant(s) and all WAPC system. Designation(s) should correspond with ess line or area), 2L-8.a. (operations and associated rinses), or 2L-mation for this WAPC system is already provided elsewhere in this teck the box to the right, and SKIP to Question 2L-11.
G СВІ	b.	G Process bathsG Acid regenerationG Building evacuation	ns from which of the following? Check (✔) ALL that apply.
G сві	C.	 G Other (specify): Indicate the devices in this WAPC sy G Venturi scrubber G Spray chamber G Evaporation chamber G Separator 	
G сві	d.	•	e system in dry standard cubic feet per minute (dscfm).
G СВІ	e.	Is the water recirculated or applied o G Recirculated (continue) G Once-through (SKIP to Question	
G сві	f.	Is any treatment and/or conditioning G Yes (continue) G No (SKIP to Question 2L-10.j.)	(e.g., chemical additions) performed in the recirculating loop?
G сві	g.	Does the treatment in the recirculating G No - Dedicated treatment G Yes - Treatment shared with other	g loop also treat wastewater from other processes?

Specify the processes:

Copy	of	

COMPLETE A COPY OF QUESTION 2L-10 FOR <u>EACH</u> OPERABLE WAPC SYSTEM.

2 CRI	2L-10.n.	_ ` `	id/or treatment processes which are included in	the recirculating loop.
	(cont.)	G Clarifiers	G Oil skimmers	
		G Classifiers	G Scale pits	
		G Cooling towers	G Sludge dewatering unit	
		G Earthen Lagoons	pressure filtration, etc.)	
		G Lined (specify liner types)		d, multimedia, etc.)
		G Clay	G Water softeners	
		G Synthetic	G Other (specify):	
		G Other (specify):	G Other (specify):	
		G Unlined	G None	
G СВІ	i.	Indicate chemical additions to the	water recirculation system. Check (✓) ALL tha	t apply.
		G Acid	G Scale inhibitor	. арр.у.
		G Caustic (sodium hydroxide)	G Surfactant	
		G Corrosion inhibitor	G Other (specify):	
		G Lime	G Other (specify):	
		G Polymer	G None	
		·		
G СВІ	j.	Provide the design flow of water the	nrough the recirculating loop.	gpm
G СВІ	k.	Provide the average recirculation	rate of water through the WAPC system and pe	riod of operation.
		-		·
		gpm	hours per day	days per year
G СВІ	I.		new water is added to the system and period or e influent flow rate; for recirculating systems, pr	
		gallo	ons per day	days per year
G СВІ	m.	Indicate <u>ALL</u> sources for water ad The percentages should add to 10	uted by each source.	
			or surface water which has not been used	%
		elsewhere on site)		
		G Noncontact cooling water (spe	ecify manufacturing process(es)):	%
				-
		G Treated process wastewater ((specify manufacturing process(es)):	%
		G Untreated process wastewate	er (specify manufacturing process(es)):	- %
		•	(openity manarastaring process(co)).	<u>-</u>
		G Treated storm water (specify a	manufacturing process(es) or other collection	%
		area(s)):		_
			fy manufacturing process(es) or other collection	n% -
				%
				:%

				Сору	of
		COMPLETE A COPY OF C	QUESTION 2L-10 FOR EACH OPERABLE WAPC	SYSTEM.	
G сві	2L-10.n. (cont.)	Provide the average discharge provide the blowdown rate).	rate from the system and period of discharge	ge (for recirculatii	ng systems,
		gpm	hours per day	day	s per year
		OR:	gallons per day	day	s per year
G CBI	0.	G Process solution makeup of Discharge to treatment (sp. G Discharge without treatment outfall number): G Discharge without treatment for permit monitoring locate. G Discharge without treatment designation for permit monitoring or alternation. G Zero discharge or alternation. G Deep-well injection. G Evaporation (specify makes). G Percolation ponds. G Spray irrigation. G Contract hauled (specify disposal rate, (specify destination/dispecify destination/dispecify destination/dispecify destination/dispecify destination/dispecify disposal rate, (specify destination/dispecify destination).	nt by pipeline, sewer, or other conveyance t	o surface water (specify designation

- **G CBI 2L-11.**a. Are any dry air pollution control (DAPC) systems associated with the acid pickling or descaling operations or acid regeneration plants?
 - G Yes (continue)
 - **G** No (SKIP to Question 2L-12)
- G CBI b. Provide the acid pickling, descaling, or acid regeneration designations associated with any DAPC system, one per line. Designation(s) should correspond with response(s) to Question 2L-1 (process line or area) or 2L-9.a. (acid regeneration). For each process listed, indicate the type of DAPC system.

Process Line or Area Designations	Type of DAPC System
	 G Fabric filter (i.e., baghouse) G Other (specify):
	 G Fabric filter (i.e., baghouse) G Electrostatic precipitator G Other (specify):
	 G Fabric filter (i.e., baghouse) G Other (specify):
	 G Fabric filter (i.e., baghouse) G Other (specify):
	 G Fabric filter (i.e., baghouse) G Other (specify):
	G Fabric filter (i.e., baghouse) G Electrostatic precipitator G Other (specify):
	 G Fabric filter (i.e., baghouse) G Other (specify):
	G Fabric filter (i.e., baghouse) G Electrostatic precipitator G Other (specify):
	G Fabric filter (i.e., baghouse) G Electrostatic precipitator G Other (specify):
	G Fabric filter (i.e., baghouse) G Electrostatic precipitator G Other (specify):

			Сору	of
	STOP	EXCLUDING WAPC SYSTEMS, PROCESS DISCHARGES, ACID REGENERATION, AND STORM WASTEWATER SOURCES FROM ACID PICKLING AND DESCALING OPERATIONS OR ACID REGEN	•	
		Complete a copy of Question 2L-12 for $\underline{\textbf{EACH}}$ acid pickling, descaling, or acid r source. Number each copy of Question 2L-12 in the space provided in the upper Question 2L-12 is two pages long.		
		IF YOUR SITE HAS NO SOURCES WHICH CONTRIBUTE PROCESS WASTEWATER NOT ASSOCIATIVE PROCESS DISCHARGES, ACID REGENERATION, OR STORM WATER, CHECK THE BOX TO THE REQUESTION 2L-13.		
	2L-12.	Provide information for the acid pickling, descaling, or acid regeneration operat wastewater generating sources.	ions and rela	ated on-site
G сві	a.	Indicate the source of process wastewater NOT associated with wet air pollution discharges, acid regeneration, or storm water. If there is more than one source copy of this question for EACH acid pickling, descaling, or acid regeneration so G Raw material handling , preparation, and storage G Tank clean outs G Equipment cleaning and washdown water		

		ETE A COPY OF QUESTION 2L-12 FOR <u>EACH</u> ACID PICKLING AND DESCALING OR ACID REGENERATION SOURCE GENERATING SOURCE SENDER STORM WATER.
G сві	2L-12. d.	Indicate the destination of this wastewater stream. Check (✓) <u>ALL</u> that apply.
	(cont.)	G Discharge to treatment (specify treatment system):
		G Discharge without treatment by pipeline, sewer, or other conveyance to surface water (specify outfall number):
		G Discharge without treatment by pipeline, sewer, or other conveyance to POTW (specify designation for permit monitoring location):
		G Discharge without treatment by pipeline, sewer, or other conveyance to PrOTW (specify designation for permit monitoring location if applicable):
		G Zero discharge or alternative disposal methods:
		G Deep-well injection
		G Evaporation (specify method):
		G Percolation pond
		G Spray irrigation

(specify disposal rate, including transportation): \$ ______ per gallon (specify destination/disposal method):

G Other (specify):

G Contract hauled

G Incineration

Copy ____ of ___

Provide information on any major process modifications and/or shut downs which have occurred at the acid pickling, descaling, and/or acid regeneration operations at this site since 1993. Provide the process line or area or acid regeneration designations in the description. Designation(s) should correspond with response(s) to Question 2L-1 (process lines or area) or 2L-9.a. (acid regeneration).

Shut Down or Modification?	Date	Description

G CBI 2L-14. Provide information on any publicly announced process modifications and/or shut downs planned to occur during the next five years (1998 to 2002) at the acid pickling, descaling, and/or acid regeneration operations at this site. Provide the process line or area or acid regeneration designations in the description. Designation(s) should correspond with response(s) to Question 2L-1 (process lines or area) or 2L-9.a. (acid regeneration).

Shut Down or Modification?	Anticipated Date	Description

Indicate <u>ALL</u> pollution prevention (waste reduction) or management practices implemented by your site for the acid pickling, descaling, and/or acid regeneration operations at this site and describe the practice as it is implemented. Describe all processes where by-products and wastes are recovered for reuse or sold as a raw material feedstock. Discuss the percent recovered. Provide the process line or area or acid regeneration designations in the description. Designation(s) should correspond with response(s) to Question 2L-1 (process lines or area) or 2L-9.a. (acid regeneration).

	Management Practices	Description of Practice
G	Management of spillage and losses from operations associated with acid pickling, descaling, and/or acid regeneration	
G	Recovery and/or reuse of acid pickling or descaling solutions other than acid regeneration	
G	Management of runoff from raw material storage areas associated with acid pickling, descaling, and/or acid regeneration	
G	Use of at-the-source purification systems to extend bath life	
G	Reuse of WAPC wastewater for chemical bath makeup	
G	Countercurrent cascade rinsing	
G	Reuse of rinse water for chemical bath makeup	
G	Other (specify):	
G	Other (specify):	
G	Other (specify):	

COMMENTS FOR SECTION 2L: ACID PICKLING AND DESCALING (INCLUDING ACID REGENERATION)

Cross reference your comments by question number and indicate the confidential status of your comment by checking () the box in the column titled "CBI" (Confidential Business Information). If you need additional space, photocopy this page before writing on it and number each copy in the space provided in the upper right corner.

Question Number	CDI	Commont
Number	СВІ	Comment
	G	
	G	
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	G	

Section	Copy	of		

SECTION 2M. COLD FORMING

TECHNICAL INFORMATION HELP LINE: (800) 357-7075



IS COLD FORMING PERFORMED AT THIS SITE?

G YES (CONTINUE)

G Rolling

G Other (specify):

G No (SKIP to Section 2N)

Throughout this section, you will be required to provide information for <u>ALL</u> operable units and water systems related to cold forming processes which were on site during 1997, including units and water systems which may have been idle for an extended period of time due to circumstances such as market conditions, major rebuilds, or labor disputes. If an operable unit or water system was not in operation during 1997, substitute the most recent calendar year when such circumstances did not exist. Note the year of operation and the circumstances in the comments at the end of this section, and provide data from that calendar year.

COMPLETE A COPY OF SECTION 2M FOR **EACH** OPERABLE COLD FORMING PROCESS. IF YOUR SITE EMPLOYS MULTIPLE



HOW MANY OPERABLE COLD FORMING PROCESSES WERE ON SITE DURING 1997?

OPERABLE UNITS FOR ELECTRIC-RESISTANCE-WELDED (ERW) PIPE/TUBE OPERATIONS, PIPE/TUBE DRAWING OPERATIONS, OR WIRE DRAWING OPERATIONS, A COPY OF SECTION 2M MAY BE COMPLETED FOR EACH GROUP OF OPERATIONS OF THESE TYPES. FOR EXAMPLE, TWO ERW MILLS AND FOUR SEPARATE PIPE/TUBE DRAWING OPERATIONS REQUIRE COMPLETION OF ONLY TWO COPIES OF SECTION 2M (ONE FOR THE ERW MILLS AND ONE FOR THE PIPE/TUBE DRAWING OPERATIONS). BE SURE TO PROVIDE THE NUMBER OF OPERABLE UNITS ASSOCIATED WITH A COLD FORMING

		OPERATION IN QUESTION 2M-4. NUMBER EACH COPY OF SECTION 2M IN THE SPACE PROVIDED AT THE TOP OF EACH PAGE.
G сві	2M-1.	Provide the designation by which your site refers to this cold forming process (e.g., No. 1 tandem mill, 3 drawing benches).
G сві	2M-2.	What was the first year of operation for this cold forming process?
G сві	2M-3. a.	What is the total rated capacity of this cold forming process in tons of steel formed per year?
		tons/year (to three significant figures, e.g., 545,000 tons/year)
G сві	b.	What is the annual number of operating hours used to determine the total rated capacity?
		hours/year
G СВІ	2M-4.	Indicate what type of cold forming is performed and the number of operable units associated with this forming process.
		G Drawing - wire; number of operable units:
		G Drawing - pipe and tube; number of operable units:
		G Drawing - other than pipe and tube or wire; number of operable units:
		G Extrusion
		G Forging
		G Electric-resistance-welding (pipe and tube); number of operable units:

Part A: Technical Information 2M-1 Section 2M: Cold Forming

		Section Copy of
G сві	2M-5.	What types of steel were formed at this cold forming process in 1997? Check (✓) <u>ALL</u> that apply. The percentages should add to 100 percent.
		G Carbon%
		G Alloy%
		G Stainless%
		G Other metal products (specify):%

G CBI 2M-6. Provide annual production data for this cold forming process for each of the five calendar years 1993 through 1997.

Year	Steel Cold Formed (tons/year)
1993	
1994	
1995	
1996	
1997	

Total: ______%

Part A: Technical Information 2M-2 Section 2M: Cold Forming

G сві	2M-7.	Attach a process flow diagram (PFD) that shows this cold forming process and the water use associated with this process. You are NOT required to create a new PFD if an existing diagram will suffice. Number the diagram in the upper right corner, and include your site ID number (as shown on the cover page of Part A). Specific instructions for including the PFD, along with an example diagram, are provided below. Flow rates are NOT required on the diagrams.		
		Provide the PFD number assigned to this cold forming PFD. If the process is already shown on a PFD provided elsewhere in this survey, provide the PFD number and review the following list for completeness. If you need assistance, call the Technical Information Help Line at (800) 357-7075.		
		Cold forming PFD		
		Process Flow Diagram Checklist		
		Be sure	1	
		All cold forming operations are included. Include those operations which do not generate process wastewater.	G	
		All air pollution control systems are included. Label each system as being either wet or dry. Water streams for all wet air pollution control systems must be shown, including all recycle streams and all treatment processes within recycle loops.	G	
		Any recycle or reuse of process wastewater or other waters is indicated clearly on the diagram.	G	
		Any in-process wastewater treatment or reuse technologies are indicated. Show and label all treatment units and all recycle loops.	G	
		Significant losses of water (e.g., evaporation) are shown.	G	
		All materials entering each operation and all products and wastes exiting each operation are identified. Wastes include wastewater, sludges, baghouse dust, and point-source air emissions. Noncontact cooling water systems which do not contain process wastewater and do not discharge to process wastewater systems do not need to be included.	G	
		All process wastewater streams are identified. When sources and destinations of process wastewater are not shown on the diagram (i.e., the stream is entering from or exiting to a location not shown on the diagram), describe the source or destination (e.g., "from river" or "to wastewater treatment") and add the PFD number, when appropriate, where the stream's previous or next location can be seen.	G	
		The PFD number and your site ID number are written on the diagram.	G	
		If you believe that the diagram should be treated as confidential, stamp it "Confidential" or write "Confidential" or "CBI" across the top. If any diagram is not marked "Confidential", it will	G	

be considered nonconfidential under 40 CFR Part 2, Subpart B.

Section Copy ___

of

Cold Forming Example Process Flow Diagram

Section Copy of

Describe the configuration of this cold forming process or mill from where the steel enters to where the semi-finished or finished product exits. Complete one row for each process station or mill stand. Indicate the site designation of each station or stand and the station or stand number (e.g., 1-temper mill); whether it is a single pass or reversing; whether rolling solutions are applied; what type of rolling solutions are used; and whether direct contact water is applied. If you need additional space, photocopy this page before writing on it and number each copy of Question 2M-8 in the space provided in the upper right corner. Note: Question 2M-8 is one page long.

Process Station or Mill Stand Designation	Single		Forming	/Rolling Soluti	ions*			ntact Water (with ng solution)*
(see list below) and Stand Number	Pass (SP)/ Reversing (R)	Applied	Once-Through (OT) or Recycled (R)	Animal-fat based solution	Synthetic solution	Detergent or other solutions	Applied	Once-Through (OT) or Recycled (R)
	G SP G R	G Yes → G No	G OT G R	G Yes G No	G Yes G No	G Yes G No	G Yes → G No	G OT G R
	G SP G R	G Yes → G No	G OT G R	G Yes G No	G Yes G No	G Yes G No	G Yes → G No	G OT G R
	G SP G R	G Yes → G No	G OT G R	G Yes G No	G Yes G No	G Yes G No	G Yes → G No	G OT G R
	G SP G R	G Yes → G No	G OT G R	G Yes G No	G Yes G No	G Yes G No	G Yes → G No	G OT G R
	G SP G R	G Yes → G No	G OT G R	G Yes G No	G Yes G No	G Yes G No	G Yes → G No	G OT G R
	G SP G R	G Yes → G No	G OT G R	G Yes G No	G Yes G No	G Yes G No	G Yes → G No	G OT G R
	G SP G R	G Yes → G No	G OT G R	G Yes G No	G Yes G No	G Yes G No	G Yes → G No	G OT G R
	G SP G R	G Yes → G No	G OT G R	G Yes G No	G Yes G No	G Yes G No	G Yes → G No	G OT G R
	G SP G R	G Yes → G No	G OT G R	G Yes G No	G Yes G No	G Yes G No	G Yes → G No	G OT G R
	G SP G R	G Yes → G No	G OT G R	G Yes G No	G Yes G No	G Yes G No	G Yes → G No	G OT G R
	G SP G R	G Yes → G No	G OT G R	G Yes G No	G Yes G No	G Yes G No	G Yes → G No	G OT G R
	G SP G R	G Yes → G No	G OT G R	G Yes G No	G Yes G No	G Yes G No	G Yes → G No	G OT G R
	G SP G R	G Yes → G No	G OT G R	G Yes G No	G Yes G No	G Yes G No	G Yes → G No	G OT G R
	G SP G R	G Yes → G No	G OT G R	G Yes G No	G Yes G No	G Yes G No	G Yes → G No	G OT G R

Below are examples of process station or mill stand designations:

Cold expanded pipe Electric-resistance-weld Sendzimir
Cold drawn pipe or tube Tandem Temper
Cold drawn wire

Part A: Technical Information 2M-5 Section 2M: Cold Forming

^{*}Forming/rolling solutions have additives to aid in the forming/rolling process. Direct contact water does not.

of of

G CBI 2M-9.a. Indicate the product(s) formed at this cold forming process. Check (✓) <u>ALL</u> that apply. For each product checked, provide the ranges of shape (see examples below) and dimensional data in the table unless shaded. Provide ranges if appropriate.

	Product	Shape	Length (feet)	Width or Diameter (inches)	Thickness (inches)
G	Bars				
G	Billets (if shape is round, do not provide thickness)				
G	Pipes (provide inside diameter and wall thickness)				
G	Plates				
G	Reinforcing bar				
G	Rods				
G	Sheets				
G	Small structurals				
G	Strips				
G	Tubes (provide outside diameter or width and wall thickness)				
G	Wire				
G	Other (specify):				
G	Other (specify):				
G	Other (specify):				
G	Other (specify):				
G	Other (specify):				

Examples of shape: Beams: H, I, wide-flange

Bars: square, rectangular, hexagonal Billets: square, rectangular, round Small structurals: angles, channels, tees, zees

G сві	b.	Provide the dimensions of the cold formed product which had the highest production in 1997.						
		Shape	Length	Width	Thickness			
G сві	C.	What was the annual pro	duction for this product in	1997?	_ tons per year			
G сві	d.	What percent of overall p	roduction in 1997 at this p	process did this product rep	resent?%			

Part A: Technical Information 2M-6 Section 2M: Cold Forming

		Section	Сору	of	Сору	of
	CTOP	HOW MANY SEPARATE OPERABLE DIRECT CON SYSTEMS WERE ON SITE AT THIS COLD FORMING PROC			R ROLLING SO	<u>LUTION</u>
	SIUP	COMPLETE A COPY OF QUESTION 2M-10 FOR EACH O SOLUTION SYSTEM. NUMBER EACH COPY OF QUESTION NOTE: QUESTION 2M-10 IS THREE PAGES LONG.	PERABLI	E DIRECT CONTACT WATE		
		IF YOUR SITE DOES NOT HAVE ANY DIRECT CONTACT WA' WITH THIS COLD FORMING PROCESS, CHECK THE BOX TO				SOCIATED G
G сві	2M-10. a.	Indicate the function(s) of this direct contact water G Roll and/or roll table spray cooling G Die spray cooling G Product cooling including runout tables G Other (specify):			, ,	L that apply.
G сві	b.	What year was this direct contact water or rolling s	olutior	system installed?		
G сві	C.	Is the water or solution recirculated or applied onc G Recirculated (continue) G Once-through (SKIP to Question 2M-10.j.)	e-thro	ugh?		
G СВІ	d.	Is any treatment and/or conditioning (e.g., chemics G Yes (continue) G No (SKIP to Question 2M-10.h.)	al addi	tions) performed in t	he recirculatin	g loop?
G сві	e.	Does the treatment in the recirculating loop also tr G No - Dedicated treatment G Yes - Treatment shared with other processes Specify the processes:	eat wa	stewater from other	processes?	
G сві	f.	Check (🗸) ALL treatment units and/or treatment p G Clarifiers G Classifiers G Cooling towers G Earthen Lagoons G Lined (specify liner type): G Clay G Synthetic G Other (specify): G Unlined	G G G G G	ies which are include Oil skimmers Scale pits Sludge dewatering pressure filtration, Water filters (e.g., Water softeners Other (specify): Other (specify): None	g units (e.g., va etc.) sand, multime	cuum filter, dia, etc.)
G СВI	g.	Indicate chemical additions to the water recirculating Acid G Caustic (sodium hydroxide) G Corrosion inhibitor G Emulsified rolling oils G Lime	G G G	Polymer Scale inhibitor Surfactant Other (specify): _		

2M-10. h.	Provide the design flow of wa	ater through the recirculating loop.		apm
(cont.) i.	-	ation rate of water or solution through the system and p		-
	gpm	hours per day	days per	year
j.		which new water is added to the system and period of we de the influent flow rate; for recirculating systems, prov		
		gallons per day	days per	year
k.	Indicate <u>ALL</u> sources for wate The percentages should add	er addition. Provide the percentage of water contribute to 100 percent.	d by each so	urce.
	G Plant service water (city, elsewhere on site)	well, or surface water which has not been used		%
	G Noncontact cooling water	r (specify manufacturing process(es)):		%
	G Treated process wastewa	ater (specify manufacturing process(es)):		%
	G Untreated process waste	ewater (specify manufacturing process(es)):		%
		ecify manufacturing process(es) or other collection		%
		specify manufacturing process(es) or other collection		%
	G Other (specify):			%
		Total: _	100	%
I.	Provide the average discharg provide the blowdown rate).	ge rate from the system and period of discharge (for red	circulating sy	stems,
	gpm	hours per day	days per	year
	OR:	gallons per day	daya par	

						Section Co	ру	of	Сору	of
	Co	MPLET	ГЕ А	COPY OF QUESTION	ı 2M-10 For <u>E</u> ∕	ACH OPERABLE DIRE	CT CONTACT	Γ WATER OR	ROLLING SOLUTION SY	STEM.
G сві	2M-10.m. (cont.)	Ind G				•		•	() ALL that apply.	
	` ,	G	Dis	scharge without	treatment by	•	or other co	nveyance	to surface water (specify
		G		scharge without permit monitori	•	pipeline, sewer,	or other co	onveyance	e to POTW (specify	designation
		G		-	•			-	to PrOTW (specify	
		G		-		sposal methods:	,			
			_	Deep-well inje						
						od):				
			_	Percolation po		,				
				Spray irrigation						
			G	. , ,						
						ıding transportati al method):			per gallon	
			G	Incineration						
			G	Other (specify	<i>'</i>):					

		Se	ection Copy	of	Сору	of
	STOP	HOW MANY OPERABLE WET AIR POLLUTI FORMING PROCESS DURING 1997 ? A WAPC S' UNIT	•	-		
		COMPLETE A COPY OF QUESTION 2M-11 FOR E. 2M-11 IN THE SPACE PROVIDED IN THE UPPER RI				
		IF YOUR SITE DOES NOT HAVE WET AIR POLLUTION THE BOX TO THE RIGHT AND SKIP TO QUESTION		IATED WITH THIS COL	D FORMING PROCE	ess, check
G СВІ	2M-11. a.	Provide the designation(s) of all operations a WAPC system is already provided elsewhere to the right, and SKIP to Question 2M-12.				
G СВІ	b.	This WAPC system controls emissions from apply. G Raw material handling, preparation, and G Process station or mill stand emission G Building evacuation G Other (specify):		llowing processes	s? Check (✔) <u>A</u>	ALL that
G СВІ	C.	Indicate the devices in this WAPC system. G G Venturi scrubber G Spray chamber G Evaporator chamber G Separator	G D G P G C	chat apply. Demister Decked tower Other (specify): Other (specify):		
G СВІ	d.	Provide the gas or air flow through the syste	em in dry standa	rd cubic feet per ı	minute (dscfm).	
G СВІ	e.	Is the water recirculated or applied once-through (SKIP to Question 2M-11	· ·			
G СВІ	f.	Is any treatment and/or conditioning (e.g., cl G Yes (continue) G No (SKIP to Question 2M-11.j.)	hemical additior	ns) performed in tl	ne recirculating	loop?
G СВІ	g.	Does the treatment in the recirculating loop G No - Dedicated treatment G Yes - Treatment shared with other processes: Specify the processes:	esses			

			Section Copy	of	Сору _	of
		COMPLETE A COPY OF QUESTION	N 2M-11 FOR <u>EACH</u> (DPERABLE WAPC SYSTEM.		
G СВІ	2M-11. h.	Check (✓) <u>ALL</u> treatment units and/or	treatment process	es which are included in	the reci	rculating loop.
	(cont.)	G Clarifiers	G	Oil skimmers		
		G Classifiers	G	Scale pits		
		G Cooling towers	G	Sludge dewatering units	s (e.g., v	acuum filter,
		G Earthen Lagoons		pressure filtration, etc.)		
		G Lined (specify liner type):		Water filters (e.g., sand	, multim	edia, etc.)
		G Clay		Water softeners		
		G Synthetic		Other (specify):		
		G Other (specify):		Other (specify):		
		G Unlined	G	None		
G сві	i.	Indicate chemical additions to the water			apply.	
		G Acid		Scale inhibitor		
		G Caustic (sodium hydroxide)		Surfactant		
		G Corrosion inhibitor		Other (specify):		
		G Lime		Other (specify):		
		G Polymer	G	None		
G сві	j.	Provide the design flow of water through	gh the recirculating	loop		gpm
G сві	k.	Provide the average recirculation rate	of water through th	e WAPC system and per	riod of o	peration.
		gpm	hours per d	day	da	ays per year
G СВІ	l.	Provide the average rate at which new the influent flow rate; for recirculating s			ough sys	stems, provide
		gallons p	er day		da	ays per year
G СВІ	m.	Indicate <u>ALL</u> sources for water addition The percentages should add to 100 pe		centage of water contribu	ited by e	each source.
		G Plant service water (city, well, or so elsewhere on site)	urface water which	has not been used		%
		G Noncontact cooling water (specify	manufacturing pro	ocess(es)):		%
		G Treated process wastewater (spec	cify manufacturing	process(es)):		%
		G Untreated process wastewater (sp	ecify manufacturin	g process(es)):		%
		G Treated storm water (specify manuarea(s)):			· 	%
		G Untreated storm water (specify ma				%
		G Other (specify):				%
		•		Total:		00 %

Part A: Technical Information 2M-11 Section 2M: Cold Forming

			Section Copy	of	Сору	of
		COMPLETE A COPY O	DF QUESTION 2M-11 FOR <u>EACH</u> OPER	ABLE WAPC	SYSTEM.	
G сві	2M-11.n. (cont.)	Provide the average discharge provide the blowdown rate).	ge rate from the system and per	od of disch	narge (for recirculating	j systems,
		gpm	hours per day	_	days	per year
		OR:	gallons per da	у _	days	per year
G CBI	0.	G Discharge to treatment (C) G Discharge without treatment outfall number): G Discharge without treatment for permit monitoring local or permit monitoring local or permit monitoring l	nent by pipeline, sewer, or other onitoring location if applicable):	conveyance	e to surface water (specify of the to POTW (specify of the to PrOTW (specify)) per gallon	pecify designation

Section Copy of

G CBI 2M-12.a. Are any dry air pollution control (DAPC) systems associated with this cold forming process?

G Yes (continue)

G No (SKIP to Question 2M-13)

G CBI b. Indicate the process associated with DAPC systems in this cold forming process. Check (✓) <u>ALL</u> that apply. For each process checked, indicate the type of DAPC system.

	Process	Type of DAPC System
G	Raw material handling, preparation, and storage associated with this cold forming process	G Fabric filter (i.e., baghouse) G Electrostatic precipitator G Other (specify):
G	Process station or mill stand emission	 G Fabric filter (i.e., baghouse) G Other (specify):
G	Building evacuation associated with this cold forming process	 G Fabric filter (i.e., baghouse) G Electrostatic precipitator G Other (specify):
G	Other (specify):	 G Fabric filter (i.e., baghouse) G Electrostatic precipitator G Other (specify):
G	Other (specify):	G Fabric filter (i.e., baghouse) G Electrostatic precipitator G Other (specify):
G	Other (specify):	 G Fabric filter (i.e., baghouse) G Electrostatic precipitator G Other (specify):
G	Other (specify):	 G Fabric filter (i.e., baghouse) G Electrostatic precipitator G Other (specify):
G	Other (specify):	 G Fabric filter (i.e., baghouse) G Other (specify):

Part A: Technical Information 2M-13 Section 2M: Cold Forming

			Section (Copy of	Copy _	of
	STOP	EXCLUDING WAPC SYSTEMANY OTHER WASTEWATER S				
		COMPLETE A COPY QUESTION QUESTION 2M-13 IN THE SPALONG.				
		IF YOUR SITE HAS NO COLD FO WITH A DIRECT CONTACT WAT	TER OR ROLLING SOLUTION			
		TO THE RIGHT AND SKIP TO (QUESTION 2M-14.			G
	2M-13.	Provide information for the c	old forming process ar	nd related on-si	te wastewater generat	ing sources.
G СВІ	a.	Indicate the source of processystem, wet air pollution con a copy of this question for E.G. Equipment cleaning and G. Roll shops G. Basement sumps G. Other (specify):	itrol, or storm water. If ACH cold forming sour	there is more t		
G СВІ	b.	Provide a list of chemicals o wastewater. If a list is readil written on the upper right co solution (e.g., solutions used product and the product cod	y available, attach it to rner. If a chemical or p to clean and wash eq	the survey with collutant origina	this question number ates from a commercia	and your site ID
G СВІ	C.	Provide the wastewater flow	rate associated with th	e source checl	ked above.	
		gpm	hour	s per day		days per year
		OR:	gallo	ns per day		days per year

				Section Copy	of	Сору	_ of
		Сомя	PLETE A COPY OF QUESTION 2M-13 FOR ENDOWED WITH	ACH COLD FORMING SOURGE THAWAPC SYSTEM AND ST		G PROCESS WASTEWATER	
G СВІ	2M-13. d.	_	licate the destination of this wastev	•	•		
	(cont.)	G		• •			
		G	Discharge without treatment by p outfall number):	ipeline, sewer, or other	conveyance	e to surface water (sp	ecify
		G	Discharge without treatment by p for permit monitoring location):	ipeline, sewer, or other	conveyance	e to POTW (specify d	esignation
		G	Discharge without treatment by p designation for permit monitoring	•	•		
		G	Zero discharge or alternative disp	• • • • •			
			G Deep-well injection				
			G Evaporation (specify method	r):			
			G Percolation pond				
			G Spray irrigation				
			G Contract hauled				
			(specify disposal rate, includ (specify destination/disposal				
			G Incineration	,			
			G Other (specify):				

Section Copy of

G CBI 2M-14. Provide information on any major process modifications and/or shut downs which have occurred at this cold forming process since 1993.

Shut Down or Modification?	Date	Description

G CBI 2M-15. Provide information on any publicly announced process modifications and/or shut downs planned to occur during the next five years (1998 to 2002) at this cold forming process.

Shut Down or Modification?	Anticipated Date	Description

Section Copy _	of
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G CBI 2M-16. Indicate <u>ALL</u> pollution prevention (waste reduction) or management practices implemented by your site for this cold forming process and describe the practice as it is implemented. Describe all processes where by-products and wastes are recovered for reuse or sold as a raw material feedstock. Discuss the percent recovered.

	Management Practices	Description of Practice
G	Management of spillage and losses from raw material handling operations associated with this cold forming process	
G	Management of runoff from raw material or product storage piles associated with this cold forming process	
G	Management of fugitive discharges of process wastewaters and materials to this cold forming process noncontact cooling water (NCCW) system	
G	Surveillance and corrective action programs for oil discharges from large NCCW flows associated with this cold forming process	
G	Collection and treatment and/or disposal of storm water from any areas associated with this cold forming process (specify manufacturing processes or other collection areas in the description)	
G	Collection and treatment and/or disposal of landfill leachate from any landfills containing wastes generated from this cold forming process	
G	Collection and treatment and/or disposal of contaminated ground waters associated with this cold forming process	
G	Practices for oil selection, management, and conservation at this cold forming process	
G	Other (specify):	

Part A: Technical Information 2M-17 Section 2M: Cold Forming

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Section Copy	OT	Copy of	

COMMENTS FOR SECTION 2M: COLD FORMING

Cross reference your comments by question number and indicate the confidential status of your comment by checking () the box in the column titled "CBI" (Confidential Business Information). If you need additional space, photocopy this page before writing on it and number each copy in the space provided in the upper right corner.

Question Number	СВІ	Comment
	G	
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	G	

SECTION 2N. SURFACE CLEANING AND COATING

TECHNICAL INFORMATION HELP LINE: (800) 357-7075



ARE SURFACE CLEANING AND/OR COATING OPERATIONS SUCH AS ALKALINE CLEANING, ACID CLEANING, HOT DIP COATING, OR ELECTROPLATING PERFORMED AT THIS SITE (AND NOT IDENTIFIED IN SECTION 2L)?

G YES (CONTINUE)

G No (SKIP to Section 2P)

Throughout this section, you will be required to provide information for <u>ALL</u> operable units and water systems related to surface cleaning and coating which were on site during 1997, including units and water systems which may have been idle for an extended period of time due to circumstances such as market conditions, major rebuilds, or labor disputes. If an operable unit or water system was not in operation during 1997, substitute the most recent calendar year when such circumstances did not exist. Note the year of operation and the circumstances in the comments at the end of this section, and provide data from that calendar year.



FOR THIS SECTION AND SECTION 2L, INFORMATION IS COLLECTED FOR PROCESS LINES OR AREAS. THESE LINES OR AREAS CAN BE DEFINED BY SITE PERSONNEL. IF THE PRIMARY FUNCTION OF THE PROCESS LINE OR AREA IS PICKLING OR DESCALING, THEN COMPLETE SECTION 2L INSTEAD OF THIS SECTION. IF SURFACE CLEANING OR COATING IS PERFORMED IN CONJUNCTION WITH ANNEALING IN THE SAME PROCESS LINE OR AREA, THEN INCLUDE ANNEALING IN THIS SECTION.

HOW MANY **OPERABLE SURFACE CLEANING AND/OR COATING LINES OR AREAS** WERE ON SITE DURING **1997**? _____

COMPLETE A COPY OF QUESTION 2N-1 THROUGH 2N-8 FOR **EACH** OPERABLE SURFACE CLEANING AND/OR COATING PROCESS LINE OR AREA. NUMBER EACH COPY OF QUESTIONS 2N-1 THROUGH 2N-8 IN THE SPACE PROVIDED IN THE UPPER RIGHT CORNER. NOTE: QUESTIONS 2N-1 THROUGH 2N-8 ARE 11 PAGES LONG.

G СВІ	2N-1.	Provide the designation by which your site refers to this process line or area (e.g., No. 1 galvanizing line).	
G сві	2N-2.	What was the first year of operation for this process line or area?	
G СВІ	2N-3. a.	What is the total rated capacity of this process line or area in tons of steel cleaned or coated per yea	
		tons/year (to three significant figures, e.g., 825,000 tons/year)	
G сві	b.	What is the annual number of operating hours used to determine the total rated capacity?	
		hours/year	

G CBI 2N-4.

Attach a process flow diagram (PFD) that shows the operations and the water use associated with this process. You are <u>NOT</u> required to create a new PFD if an existing diagram will suffice. Number the diagram in the upper right corner, and include your site ID number (as shown on the cover page of Part A). Specific instructions for including the PFD, along with an example diagram, are provided below. **Flow rates are <u>NOT</u> required on the diagrams.**

Provide the PFD number assigned to the PFD. If the process is already shown on a PFD provided elsewhere in this survey, provide the PFD number and review the following list for completeness. If you need assistance, call the Technical Information Help Line at (800) 357-7075.

Surface cleaning and/or coating PFD-_____

Process Flow Diagram Checklist

Be sure	✓
All surface cleaning and/or coating operations on the line or in the area are included. Include those operations which do not generate process wastewater.	G
All air pollution control systems are included. Label each system as being either wet or dry. Water streams for all wet air pollution control systems must be shown, including all recycle streams and all treatment processes within recycle loops.	G
Any recycle or reuse of process wastewater or other waters is indicated clearly on the diagram.	G
Any in-process wastewater treatment or reuse technologies are indicated. Show and label all treatment units and all recycle loops.	G
Significant losses of water (e.g., evaporation) are shown.	G
All materials entering each operation and all products and wastes exiting each operation are identified. Wastes include wastewater, sludges, baghouse dust, and point-source air emissions. Noncontact cooling water systems which do not contain process wastewater and do not discharge to process wastewater systems do not need to be included.	G
All process wastewater streams are identified. When sources and destinations of process wastewater are not shown on the diagram (i.e., the stream is entering from or exiting to a location not shown on the diagram), describe the source or destination (e.g., "from river" or "to wastewater treatment") and add the PFD number, when appropriate, where the stream's previous or next location can be seen.	G
The PFD number and your site ID number are written on the diagram.	G
If you believe that the diagram should be treated as confidential, stamp it "Confidential" or write "Confidential" or "CBI" across the top. If any diagram is not marked "Confidential", it will be considered nonconfidential under 40 CFR Part 2. Subpart B.	G

Zinc Hot Dip Coating Line Example Process Flow Diagram

G CBI 2N-5. Indicate the operations performed at this process line or area. Check (✓) <u>ALL</u> that apply. Indicate the number of operable units for each type of process.

Type of Process	Number of Operable Units (e.g., tanks or furnaces) in This Process Line or Area
G Alkaline cleaning	
G Alkaline cleaning rinse	
G Acid cleaning	
G Acid cleaning rinse	
G Annealing	
G Annealing quench or rinse	
G Surface activation (fluxing)	
G Surface activation rinse	
G Electroplating	
G Electroplating rinse	
G Hot coating	
G Coating sealant	
G Coating sealant rinse	
G Other (specify):	

G CBI 2N-6. Provide annual production data for this process line or area for each of the five calendar years 1993 through 1997.

Year	Steel Cleaned or Coated (tons/year)
1993	
1994	
1995	
1996	
1997	

G CBI 2N-7.a. Indicate the product(s) processed on this line or area. Check (✓) <u>ALL</u> that apply. For each product checked, provide the ranges of shape (see examples below) and dimensional data in the table unless shaded. Provide ranges if appropriate.

	Product	Shape	Length (feet)	Width or Diameter (inches)	Thickness (inches)
G	Bars	·	, ,	, ,	·
G	Billets (if shape is round, do not provide thickness)				
G	Pipes (provide inside diameter and wall thickness)				
G	Plates				
G	Reinforcing bar				
G	Rods				
G	Sheets				
G	Small structurals				
G	Strips				
G	Tubes (provide outside diameter or width and wall thickness)				
G	Wire				
G	Other (specify):				
G	Other (specify):				
G	Other (specify):				
G	Other (specify):				
G	Other (specify):				

Examples of shape: Beams: H, I, wide-flange

Bars: square, rectangular, hexagonal Billets: square, rectangular, round Small structurals: angles, channels, tees, zees

G св і b.	Provide the dimensions of the product processed on in 1997 .	this line or area which had the highest production			
	Shape Length	Width	Thickness		
G CBI C.	What was the annual production for this product in 19	997?	tons per year		
G CBI d.	What percent of overall production in 1997 at this pro	ocess did this product re	epresent? %		



HOW MANY **OPERATIONS, INCLUDING ASSOCIATED RINSES,** ARE IN THIS PROCESS LINE OR AREA?

COMPLETE A COPY OF QUESTION 2N-8 FOR <u>EACH</u> OPERATION <u>AND</u> ITS ASSOCIATED RINSE, IF APPLICABLE. FOR EXAMPLE, TWO ELECTROPLATING BATHS FOLLOWED BY TWO RINSES ONLY NEED ONE RESPONSE TO QUESTION 2N-8. DO NOT RESPOND TO THIS QUESTION FOR ANNEALING FURNACES UNLESS FOLLOWED BY A WATER QUENCH. NUMBER EACH COPY OF QUESTION 2N-8 IN THE SPACE PROVIDED IN THE UPPER RIGHT CORNER. NOTE: QUESTION 2N-8 IS SIX PAGES LONG.

G CBI 2N-8.a. Provide the designation by which your site refers to this operation (and its associated rinse, if applicable).

G CBI b. Indicate the type of operation (and its associated rinse, if applicable) performed. Check (✓) <u>ALL</u> that apply.

G Alkaline cleaning G Surface activation rinse

G Alkaline cleaning rinse G Electroplating
G Acid cleaning G Electroplating rinse
G Acid cleaning rinse G Hot dip coating
G Batch annealing G Coating sealant

G Continuous annealing G Coating sealant rinse G Other (specify): ______

G Surface activation (fluxing)
G Other (specify):

G CBI c. Indicate the previous operation or rinse that the steel entering this operation had left. Check (✓) ALL that apply.

G Alkaline cleaning
 G Alkaline cleaning rinse
 G Surface activation (fluxing)
 G Surface activation rinse

G Acid cleaning G Electroplating

G Acid cleaning rinse
 G Batch annealing
 G Hot dip coating

G Continuous annealing
 G Annealing rinse or quench
 G Coating sealant
 G Coating sealant rinse

G Cold forming G Other (specify):

G Hot forming G Other (specify):

G NA - Beginning of process line

G CBI d. Indicate the next operation that the steel leaving this operation or rinse would enter. Check (✓) <u>ALL</u> that apply.

G Alkaline cleaning G Surface activation (fluxing)

G Acid cleaning
G Cold forming
G Batch annealing
G Electroplating
G Hot dip coating
G Coating sealant

G Continuous annealing G Other (specify): _____

G NA - End of process line

G СВІ	2N-8.e. (cont.)	coa	nis operation is hot dip coating, indicate the metal type(s) applied. If this operation is NOT a ating operation, check (🗸) the box to the right and SKIP to Question 2N-8.f.	hot dip G
		G	Zinc	
		G	Aluminum Towns (*in/least)	
		G G	Terne (tin/lead) Zinc/aluminum alloy	
		G	Other (specify):	
		G	Other (specify):	
G СВІ	f.	lf th	nis operation is electroplating, indicate the metal type(s) applied. If this operation is NOT an	
		ele	ctroplating operation, check (✓) the box to the right and SKIP to Question 2N-8.g.	G
		G	Tin	
		G	Zinc	
		G	Zinc/nickel alloy	
		G G	Chromium Other (specify):	
		G	Other (specify):	
		G	Hydrochloric acid	
		G	Hydrochloric acid	%
		G	Sulfuric acid	%
		G	Nitric acid	%
		G	Hydrofluoric acid	%
		G	Sodium hydroxide	%
		G	Potassium hydroxide	%
		G	Zinc phosphate	%
		G	Sodium stearate	%
		G	Kolene®	%
		G	Hydride®	
		G	Chromic acid	%
		G	Sodium dichromate	%
		G	Urea	%
		G	Other (specify):	%
		G	Other (specify):	
		G	Other (specify):	
		G	Other (specify):	
		G	None added	

G CBI 2N-8.h. (cont.)

Indicate the method for heating the solution from this operation (and its associated rinse, if applicable).

Heating Method	Solution	Rinse
Direct steam injection	G	G
Indirect heating with heat exchanger (noncontact)	G	G
Other (specify):	G	G
Other (specify):	G	G
Not heated (if both are checked, SKIP to Question 2N-8.j)	G	G

G СВІ	i.	Provide the operating temperature of the solution from this operation (and its associated rinse, if
		applicable). For multiple tanks operating in series at different temperatures, provide the range of
		temperatures.

Solution:	G	∂ °F	G °C	G	Not applicable
Rinse:	@	∂ °F	G ∘c	G	Not applicable

G CBI j. Indicate the method for agitating or stirring the solution from this operation (and its associated rinse, if applicable).

Agitating or Stirring Method	Solution	Rinse
Air sparging	G	G
Mechanical agitation	G	G
Other (specify):	G	G
Other (specify):	G	G
Not agitated or stirred	G	G

G CBI k. Is a fume scrubber or wet air pollution control system associated with the solution from this operation (and its associated rinse, if applicable).

Associated Fume Scrubber or Wet Air Pollution Control	Solution	Rinse
Yes	G	G
No	G	G

∍ CBI	2N-8.1. (cont.)	of water contributed by each source. The percentages should add to 100 percent.	de the percentage
		G Plant service water (city, well, or surface water which has not been used elsewhere on site)	%
		G Noncontact cooling water (specify manufacturing process(es)):	%
		G Treated process wastewater (specify manufacturing process(es)):	%
		G Untreated process wastewater (specify manufacturing process(es)):	%
		G Treated storm water (specify manufacturing processes(es) or other collection area(s)):	%
		G Untreated storm water (specify manufacturing process(es) or other collection _ area(s)):	%
		G Other (specify):	%
		Total:	100 %
G СВІ	n.	OR: gpm hours per day gallons per day Indicate the method(s) by which your site disposes of the SOLUTION from this opera ALL that apply.	days per year
		G On-site regeneration and reuse	
		G Discharge to treatment (specify treatment system):	
		G Discharge without treatment by pipeline, sewer, or other conveyance to surface voutfall number):	vater (specify
		G Discharge without treatment by pipeline, sewer, or other conveyance to POTW (s for permit monitoring location):	specify designation
		G Discharge without treatment by pipeline, sewer, or other conveyance to PrOTW (designation for permit monitoring location if applicable):	specify
		G Zero discharge or alternative disposal methods:	
		G Deep-well injection	
		G Evaporation (specify method): G Percolation pond	
		G Spray irrigation	
		G Contract hauled	
		(specify disposal rate, including transportation): \$ per g (specify destination/disposal method):	
		G Incineration	
		G Other (specify):	

Question 2N-8 Copy	of	
Questions 2N-1 to 2N-8 Copy	of	

e CRI	(cont.)	contributed by each source. The percentages should add to 100 percent. If there is NOT an associated rinse, check the box to the right and SKIP to Question 2N-9.
		G Plant service water (city, well, or surface water which has not been used% elsewhere on site)
		G Noncontact cooling water (specify manufacturing process(es)):%
		G Treated process wastewater (specify manufacturing process(es)):%
		G Untreated process wastewater (specify manufacturing process(es)):%
		G Treated storm water (specify manufacturing process(es) or other collection area(s)):%
		G Untreated storm water (specify manufacturing process(es) or other collection% area(s)):
		G Other (specify):%
		Total:%
G СВІ	p.	Provide the blowdown or discharge rate from the ASSOCIATED RINSE and period of discharge.
		gpm hours per day days per year
		OR: gallons per day days per year
Э СВІ	q.	Indicate the method(s) by which your site disposes of the <u>ASSOCIATED RINSE</u> . Check (✓) <u>ALL</u> that apply. G On-site regeneration and reuse G Discharge to another process or rinse (specify process or rinse designation): G Discharge to treatment (specify treatment system): G Discharge without treatment by pipeline, sewer, or other conveyance to surface water (specify outfall number): G Discharge without treatment by pipeline, sewer, or other conveyance to POTW (specify designation)
		for permit monitoring location):
		G Discharge without treatment by pipeline, sewer, or other conveyance to PrOTW (specify designation for permit monitoring location if applicable):
		G Zero discharge or alternative disposal methods: G Deep-well injection G Evaporation (specify method): G Percolation pond G Spray irrigation G Contract hauled (specify disposal rate, including transportation): \$ per gallon (specify destination/disposal method): G Incineration
		G Other (specify):

Question 2N-8 Copy	of
Questions 2N-1 to 2N-8 Conv	of

	COMPLETE A COPY OF QUESTION 2N-8 FOR EACH OPERATION AND ITS ASSOCIATED RINSE AT THIS PROCESS LINE OR AREA.					
G сві	2N-8.r. (cont.)	Indicate whether the ASSOCIATED RINSE is operated as a spray or immersion. G Spray G Immersion G Both				
G СВІ	S.	Indicate the flow pattern of the ASSOCIATED RINSE. G Recirculation with blowdown G Multiple-stage countercurrent cascade Indicate number of stages: G Stagnant with batch discharge G Once-through with continuous flow G Once-through with intermittent flow G Other (specify):				



HOW MANY <u>OPERABLE WET AIR POLLUTION CONTROL (WAPC) SYSTEMS</u> WERE ON SITE AT THIS SURFACE CLEANING OR COATING OPERATION DURING **1997**? A WAPC SYSTEM MAY INCLUDE MULTIPLE DEVICES SERVING THE SAME PROCESSING UNIT.

COMPLETE A COPY OF QUESTION 2N-9 FOR **EACH** OPERABLE WAPC SYSTEM. NUMBER EACH COPY OF QUESTION 2N-9 IN THE SPACE PROVIDED IN THE UPPER RIGHT CORNER. NOTE: QUESTION 2N-9 IS THREE PAGES LONG.

IF YOUR SITE DOES NOT HAVE WET AIR POLLUTION CONTROL ASSOCIATED WITH ANY PROCESS LINES OR AREAS, CHECK

THE BOX TO THE RIGHT AND SKIP TO QUESTION 2N-10.

G

G СВІ	2N-9. a.	Provide the designation(s) of the operation(s), process line(s), and all other operations associated with this WAPC system. Designations should correspond with response(s) to Questions 2N-1 (process line or area) or 2N-8.a. (operations and associated rinses). If information for this WAPC system is alread provided elsewhere in this survey, answer Question 2N-9.a., check the box to the right, and SKIP to	ne
		Question 2N-10.	G

G CBI b. This WAPC system controls emissions from which of the fo	ollowing?	Check (✓) ALL that apply.
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- **G** Process baths
- **G** Building evacuation
- G Other (specify):

G CBI c. Indicate the devices in this WAPC system. Check (✓) AI	<u>LL</u> that apply
---	----------------------

G Venturi scrubber

G Demister

G Spray chamber

G Packed tower

G Evaporation chamber

G Other (specify):

G Separator

G Other (specify):

(G CBI (d. l	Provide the ga	as or air flow t	hrough the s	vstem in dr	v standard	cubic feet	per minute (dscfm	١.

dscfm

G CBI e. Is the water recirculated or applied once-through?

- **G** Recirculated (continue)
- **G** Once-through (SKIP to Question 2N-9.I.)

G CBI f. Is any treatment and/or conditioning (e.g., chemical additions) performed in the recirculating loop?

- G Yes (continue)
- **G** No (SKIP to Question 2N-9.j.)

G CBI g. Does the treatment in the recirculating loop also treat wastewater from other processes?

- **G** No Dedicated treatment
- **G** Yes Treatment shared with other processes

Specify the processes:

				Сору	of			
		COMPLETE A COPY OF QUESTION 2N-	9 FOR <u>EACH</u> OPERABLE WAPC SY	/STEM.				
G СВІ	2N-9. h.	Check (✓) <u>ALL</u> treatment units and/or treatment	nent processes which are include	led in the recirc	ulating loop.			
	(cont.)	G Clarifiers	G Oil skimmers					
		G Classifiers	G Scale pits					
		G Cooling towersG Earthen Lagoons	G Sludge dewatering pressure filtration.		cuum filter,			
		G Lined (specify liner types):	G Water filters (e.g.,	, sand, multimed	dia, etc.)			
		G Clay	G Water softeners					
		G Synthetic	G Other (specify): _					
		G Other (specify):	G Other (specify): _					
		G Unlined	G None					
G СВІ	i.	Indicate chemical additions to the water recirculation system. Check (✓) <u>ALL</u> that apply.						
		G Acid	G Scale inhibitor					
		G Caustic (sodium hydroxide)	G Surfactant					
		G Corrosion inhibitor	G Other (specify): _					
		G Lime	G Other (specify): _					
		G Polymer	G None					
G сві	j.	Provide the design flow of water through the	recirculating loop.		gpm			
G СВІ	k.	Provide the average recirculation rate of water through the WAPC system and period of						
		gpm	hours per day	day	s per year			
G сві	l.	Provide the average rate at which new water	r is added to the system (for onc	e-through syste	ms, provide			

the influent flow rate; for recirculating systems, provide the makeup flow rate).

2N-13

_____ gallons per day

			Copy	of
		COMPLETE A COPY OF QUESTION 2N-9 FOR EACH OPERABLE WAPC SYSTEM.		
G СВІ	2N-9.m. (cont.)	uted by ead	ch source.	
		G Plant service water (city, well, or surface water which has not been used elsewhere on site)		%
		G Noncontact cooling water (specify manufacturing process(es)):		%
		G Treated process wastewater (specify manufacturing process(es)):	-	%
		G Untreated process wastewater (specify manufacturing process(es)):		%
		G Treated storm water (specify manufacturing process(es) or other collection area(s)):	-	%
		G Untreated storm water (specify manufacturing process(es) or other collection area(s)):)	%
		G Other (specify):		%
				%
G сві	n.	Provide the average discharge rate from the system and period of discharge (for provide the blowdown rate). gpm hours per day		
		OR: gallons per day	day	s per year
G СВІ	0.	Indicate the destination of wastewater discharge or blowdown. Check (✓) <u>ALL</u> that G Process solution makeup water (specify process): G Discharge to treatment (specify treatment system):	at apply.	
		G Discharge without treatment by pipeline, sewer, or other conveyance to surfact outfall number):	ce water (s	specify
		G Discharge without treatment by pipeline, sewer, or other conveyance to POTV for permit monitoring location):	N (specify	designation
		G Discharge without treatment by pipeline, sewer, or other conveyance to PrOT designation for permit monitoring location if applicable):		
		G Zero discharge or alternative disposal methods:		
		G Deep-well injection		
		G Evaporation (specify method):		
		G Percolation pond		
		G Spray irrigation		
		G Contract hauled		
		(specify disposal rate, including transportation): \$ pe (specify destination/disposal method):	er gallon	

G Other (specify):

G Incineration

G CBI 2N-10.a. Are any dry air pollution control (DAPC) systems associated with the cleaning or coating operations?

G Yes (continue)

G No (SKIP to Question 2N-11)

G CBI b. Provide the surface cleaning or coating designations associated with any DAPC system, one per line.

Designation(s) should correspond with response(s) to Question 2N-1. For each process listed, indicate the type of DAPC system.

Process Line or Area Designations	Type of DAPC System
	 G Fabric filter (i.e., baghouse) G Other (specify):
	 G Fabric filter (i.e., baghouse) G Other (specify):
	G Fabric filter (i.e., baghouse) G Electrostatic precipitator G Other (specify):
	G Fabric filter (i.e., baghouse) G Electrostatic precipitator G Other (specify):
	G Fabric filter (i.e., baghouse) G Electrostatic precipitator G Other (specify):
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	G Fabric filter (i.e., baghouse) G Electrostatic precipitator G Other (specify):
	 G Fabric filter (i.e., baghouse) G Other (specify):
	G Fabric filter (i.e., baghouse) G Electrostatic precipitator G Other (specify):
	G Fabric filter (i.e., baghouse) G Electrostatic precipitator G Other (specify):
	 G Fabric filter (i.e., baghouse) G Other (specify):
	G Fabric filter (i.e., baghouse) G Electrostatic precipitator G Other (specify):

				Copy of
	STOP	EXCLUDING WAPC SYSTEMS, PROCESS SOURCES FROM CLEANING AND COATING OF		NY OTHER WASTEWATER
		COMPLETE A COPY OF QUESTION 2N-11 FOR EACH COPY OF QUESTION 2N-11 IN THE SP TWO PAGES LONG.		
		IF YOUR SITE HAS NO SOURCES WHICH CON PROCESS DISCHARGE, OR STORM WATER, C		_
	2N-11.	Provide information for the cleaning or c	coating and related on-site wastewar	ter generating sources.
Э СВІ	a.	Indicate the source of process wasteward discharges, or storm water. If there is many question for EACH cleaning or coating soon of the storm of t	nore than one source at this site, corsource. , and storage	
Э СВI	b.	Provide a list of chemicals or pollutants wastewater. If a list is readily available, written on the upper right corner. If a check solution (e.g., solutions used to clean are product and product code, if known.	attach it to the survey with this ques nemical or pollutant originates from	tion number and your site ID a commercial cleaning
G CBI	C.	Provide the wastewater flow rate and pe	-	
		gpm	hours per day	days per year
		OR:	gallons per day	days per year

2N-16

Сору	of
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COMPLETE A COPY OF QUESTION 2N-11 FOR <u>EACH</u> SURFACE CLEANING AND COATING SOURCE GENERATING PROCESS WASTEWATER NOT ASSOCIATED WITH A WAPC SYSTEM, PROCESS DISCHARGES, OR STORM WATER.

СВІ	2N-11. d.	Ind	icate the destination of this wastewater stream. Check (🗸) ALL that apply.
	(cont.)	_	Discharge to treatment (specify treatment system):
			Discharge without treatment by pipeline, sewer, or other conveyance to surface water (specify outfall number):
		G	Discharge without treatment by pipeline, sewer, or other conveyance to POTW (specify designation for permit monitoring location):
		G	Discharge without treatment by pipeline, sewer, or other conveyance to PrOTW (specify designation for permit monitoring location if applicable):
		G	Zero discharge or alternative disposal methods:
			G Deep-well injection
			G Evaporation (specify method):
			G Percolation pond
			G Spray irrigation
			G Contract hauled
			(specify disposal rate, including transportation): \$ per gallon (specify destination/disposal method):
			G Incineration
			G Other (specify):

G

G CBI 2N-12. Provide information on any major process modifications and/or shut downs which have occurred at the surface cleaning and/or coating operations at this site since 1993. Provide the process line or area designations in the descriptions. Designation(s) should correspond with response(s) to Question 2N-1.

Shut Down or Modification?	Date	Description

G CBI 2N-13. Provide information on any publicly announced process modifications and/or shut downs planned to occur during the next five years (1998 to 2002) at the cleaning and/or coating operations at this site. Provide the process line or area designations in the descriptions. Designation(s) should correspond with response(s) to Question 2N-1.

Shut Down or Modification?	Anticipated Date	Description

Indicate <u>ALL</u> pollution prevention (waste reduction) or management practices implemented by your site for the cleaning and/or coating operations at this site and describe the practice as it is implemented. Describe all processes where by-products and wastes are recovered for reuse or sold as a raw material feedstock. Discuss the percent recovered. Provide the process line or area designations in the descriptions. Designation(s) should correspond with response(s) to Question 2N-1.

	Management Practices	Description of Practice
G	Management of spillage and losses from surface cleaning and coating operations	
G	Recovery and/or reuse of surface cleaning or coating solutions	
G	Management of runoff from raw material storage areas associated with surface cleaning and coating operations	
G	Use of at-the-source purification systems to extend bath life	
G	Reuse of WAPC wastewater for chemical bath makeup	
G	Countercurrent cascade rinsing	
G	Reuse of rinse water for chemical bath makeup	
G	Other (specify):	

COMMENTS FOR SECTION 2N: SURFACE CLEANING AND COATING

Cross reference your comments by question number and indicate the confidential status of your comment by checking (\checkmark) the box in the column titled "CBI" (Confidential Business Information). If you need additional space, photocopy this page before writing on it and number each copy in the space provided in the upper right corner.

Question Number	СВІ	Comment
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